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$%^STN;HighlightOn=  ***;HighlightOff=***  ;

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 NEWS  3  FEB 27   New STN AnaVist pricing effective March 1, 2006
 NEWS  4  APR 04   STN AnaVist $500 visualization usage credit offered
 NEWS  5  MAY 10   CA/CAplus enhanced with 1900-1906 U.S. patent records
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 NEWS  7  MAY 19   Derwent World Patents Index to be reloaded and enhanced
 NEWS  8  MAY 30   IPC 8 Rolled-up Core codes added to CA/CAplus and
                   USPATFULL/USPAT2
 NEWS  9  MAY 30   The F-Term thesaurus is now available in CA/CAplus
 NEWS 10  JUN 02   The first reclassification of IPC codes now complete in
                   INPADOC
 NEWS 11  JUN 26   TULSA/TULSA2 reloaded and enhanced with new search and
                   and display fields
 NEWS 12  JUN 28   Price changes in full-text patent databases EPFULL and PCTFULL
 NEWS 13  JUl 11   CHEMSAFE reloaded and enhanced
 NEWS 14  JUl 14   FSTA enhanced with Japanese patents
 NEWS 15  JUl 19   Coverage of Research Disclosure reinstated in DWPI
 NEWS 16  AUG 09   INSPEC enhanced with 1898-1968 archive

 NEWS EXPRESS  JUNE 30 CURRENT WINDOWS VERSION IS V8.01b, CURRENT
               MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),
               AND CURRENT DISCOVER FILE IS DATED 26 JUNE 2006.

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FILE 'HOME' ENTERED AT 13:26:52 ON 22 AUG 2006

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                                                       ENTRY    SESSION
FULL ESTIMATED COST                                     0.21       0.21

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DICTIONARY FILE UPDATES:  21 AUG 2006  HIGHEST RN 903048-34-0

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experimental property data in the original document.  For information
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http://www.cas.org/ONLINE/UG/regprops.html

=> s in 0-1/mac
         18514 IN/MAC
        552355 0-1/MAC
L1        4777 IN 0-1/MAC
                (IN/MAC (P) 0-1/MAC)

=> s ge 4-6/mac
         15311 GE/MAC
        230118 4-6/MAC
L2        1966 GE 4-6/MAC
                (GE/MAC (P) 4-6/MAC)

=> s te 11-17/mac
         11019 TE/MAC
        214908 11-17/MAC
L3          567 TE 11-17/MAC
                (TE/MAC (P) 11-17/MAC)

=> s Sb 50-70/mac
         18810 SB/MAC
        233738 50-70/MAC
L4        2652 SB 50-70/MAC
                (SB/MAC (P) 50-70/MAC)

=> s mn 5-40/mac
        351202 MN/MAC
        541664 5-40/MAC
L5       37771 MN 5-40/MAC
                (MN/MAC (P) 5-40/MAC)

=> s l3 and l3
L6          567 L3 AND L3

=> s l4 and l3
L7           66 L4 AND L3

=> s (mn or In or ge)/mac
        351202 MN/MAC
         18514 IN/MAC
         15311 GE/MAC
L8      381905 (MN OR IN OR GE)/MAC

=> s l7 and l8
L9           51 L7 AND L8

=> file caplus
COST IN U.S. DOLLARS                        SINCE FILE      TOTAL
                                              ENTRY     SESSION
FULL ESTIMATED COST                           39.84      40.05

FILE 'CAPLUS' ENTERED AT 13:30:08 ON 22 AUG 2006
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
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FILE COVERS 1907 - 22 Aug 2006 VOL 145 ISS 9
FILE LAST UPDATED: 21 Aug 2006 (20060821/ED)

=> s l9
L10 31 L9

=> d all 1-31

L10 ANSWER 1 OF 31 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2006:597501 CAPLUS <<LOGINID::20060822>>
DN 145:73444
ED Entered STN: 22 Jun 2006
TI Phase-change optical recording medium and reproducing method thereof
IN Deguchi, Hiroshi; Ito, Kazunori; Hibino, Eiko; Ohkura, Hiroko; Kato, Masaki; Abe, Mikiko; Sekiguchi, Hiroyoshi
PA Ricoh Company, Ltd., Japan
SO Eur. Pat. Appl., 30 pp.
CODEN: EPXXDW
DT Patent
LA English
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1672622	A1	20060621	EP 2005-27211	20051213
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, BA, HR, IS, YU				
	JP 2006168182	A2	20060629	JP 2004-363599	20041215
	US 2006153053	A1	20060713	US 2005-302276	20051214
PRAI	JP 2004-363599	A	20041215		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
EP 1672622	IPCI	G11B0007-006 [I,A]; G11B0007-00 [I,C*]; G11B0007-243 [I,A]; G11B0007-24 [I,C*]
	ECLA	G11B007/006
JP 2006168182	IPCI	B41M0005-26 [I,A]; G11B0007-004 [I,A]; G11B0007-00 [I,C*]; G11B0007-243 [I,A]; G11B0007-24 [I,A]; G11B0007-254 [I,A]; G11B0007-257 [I,A]
	FTERM	2H111/EA03; 2H111/EA12; 2H111/EA23; 2H111/EA33; 2H111/EA36; 2H111/EA37; 2H111/EA41; 2H111/FA01; 2H111/FA12; 2H111/FA14; 2H111/FA24; 2H111/FA25; 2H111/FA28; 2H111/FA37; 2H111/FB05; 2H111/FB06; 2H111/FB07; 2H111/FB10; 2H111/FB12; 2H111/FB19; 2H111/FB21; 2H111/FB23; 2H111/FB28; 2H111/FB29; 2H111/FB30; 2H111/GA03; 2H111/GA08; 5D029/JA01; 5D029/JB35; 5D029/JB45; 5D029/JC20; 5D029/LA12; 5D029/LA13; 5D090/AA01; 5D090/BB05; 5D090/CC12; 5D090/CC14; 5D090/DD02; 5D090/HH03
US 2006153053	IPCI	G11B0007-24 [I,A]
	NCL	369/275.100; 369/275.200
	ECLA	G11B007/006; G11B007/243

AB The phase-change optical recording medium has a substrate, and at least a first protective layer, a recording layer composed of a phase-change

material, a second protective layer and a reflective layer disposed on the substrate in this sequence has a max. recording linear velocity VH of 20 m/s to 60 m/s, a range of linear velocity recordable even when the recording linear velocity is continuously changed of 0.3VH to 1.0VH, and no occurrence of crystals causing a reprodn. error in recorded marks.

ST phase change optical recording medium reproducing

IT Optical disks
Optical recording
(phase-change optical recording medium and reproducing method thereof)

IT 891826-38-3 891826-39-4 891826-40-7 891826-41-8 891826-42-9
891826-43-0 891826-44-1 891826-45-2 891826-46-3 891826-47-4
891826-48-5 891826-49-6 891826-50-9 891826-51-0 891826-52-1
891826-53-2 891826-55-4 891826-57-6 891826-59-8 891826-61-2
891826-62-3 891826-64-5 891826-66-7 891826-67-8 891826-68-9
891826-69-0 891826-70-3 891826-71-4 891826-72-5 891826-73-6
891826-74-7 891826-75-8 ***891826-76-9*** 891826-77-0
891826-78-1 891826-80-5 891826-82-7 891826-84-9 891826-86-1
891826-88-3 891826-90-7 891826-92-9 891826-94-1 891826-97-4
891827-00-2 891827-03-5 891827-06-8 891827-07-9 891827-08-0
891827-09-1 891827-10-4 891827-11-5 891827-12-6 891827-13-7
891827-14-8 891827-15-9 891827-16-0 891827-17-1 891827-18-2
891827-19-3 891827-20-6 891827-21-7 891827-22-8 891827-23-9
891827-25-1 891827-28-4 891827-29-5 891827-30-8 891827-31-9
891827-32-0 891827-33-1
RL: DEV (Device component use); USES (Uses)
(phase-change optical recording layer contg.)

IT 409-21-2, Silicon carbide, uses 1310-53-8, Germanium oxide, uses 1314-98-3, Zinc sulfide, uses 7631-86-9, Silica, uses 12033-60-2, Silicon nitride (SiN) 12064-98-1, Germanium nitride (GeN)
RL: DEV (Device component use); USES (Uses)
(phase-change optical recording medium protective layer contg.)

IT 7440-21-3, Silicon, uses 7440-44-0, Carbon, uses 7440-56-4, Germanium, uses
RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)
(phase-change optical recording medium protective layer contg.)

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE
(1) Abe, M; WO 2005051672 A 2005 CAPLUS
(2) Anon; PATENT ABSTRACTS OF JAPAN 2003, V2003(12)
(3) Anon; PATENT ABSTRACTS OF JAPAN 2003, V2003(12)
(4) Ricoh Co Ltd; JP 2004322630 A 2004 CAPLUS
(5) Ricoh Co Ltd; JP 2005145061 A 2005 CAPLUS
(6) Ricoh Co Ltd; JP 2005153338 A 2005 CAPLUS
(7) Ricoh Company Ltd; EP 1598818 A 2005 CAPLUS
(8) Sekiguchi, H; WO 2006028251 A 2006 CAPLUS

L10 ANSWER 2 OF 31 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2005:1049911 CAPLUS <<LOGINID::20060822>>
DN 143:356728
ED Entered STN: 30 Sep 2005
TI Optical recording medium and two layered optical recording medium, recording and reproducing method, and recording and reproducing apparatus using media
IN Shinkai, Masaru; Shinotsuka, Michiaki; Iwasa, Hiroyuki
PA Ricoh Company, Ltd., Japan
SO PCT Int. Appl., 64 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM G11B007-24
ICS G11B007-00
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2005091282	A1	20050929	WO 2005-JP5459	20050317

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO,

NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY,
TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT,
RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML,
MR, NE, SN, TD, TG

JP 2005302264 A2 20051027 JP 2005-13298 20050120
PRAI JP 2004-78370 A 20040318
CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2005091282	ICM	G11B007-24
	ICS	G11B007-00
	IPCI	G11B0007-24 [ICM,7]; G11B0007-00 [ICS,7]
	IPCR	G11B0007-00 [I,A]; G11B0007-00 [I,C*]; G11B0007-24 [I,A]; G11B0007-24 [I,C*]
	ECLA	G11B007/24S4
JP 2005302264	IPCI	G11B0007-24 [ICM,7]; B41M0005-26 [ICS,7]
	IPCR	B41M0005-26 [I,A]; B41M0005-26 [I,C*]; G11B0007-24 [I,A]; G11B0007-24 [I,C*]
	FTERM	2H111/EA04; 2H111/EA12; 2H111/EA23; 2H111/EA39; 2H111/FA01; 2H111/FA02; 2H111/FA12; 2H111/FA18; 2H111/FA21; 2H111/FA25; 2H111/FB05; 2H111/FB09; 2H111/FB12; 2H111/FB30; 5D029/HA06; 5D029/JA01; 5D029/JB18; 5D029/JC02; 5D029/LA14; 5D029/LB03; 5D029/LB07; 5D029/LB11; 5D029/MA13; 5D029/RA03; 5D029/RA17

AB The present invention provides an optical recording medium comprising a transparent first substrate and a first dielec. layer, a recording layer, a second dielec. layer and a reflective layer which are laminated on the first substrate in this order, wherein the recording layer comprises a thin layer comprising mainly an alloy represented by GexSbyTez (wherein 3.5 .ltoreq. x .ltoreq. 10, 70 .ltoreq. y .ltoreq. 80 and z = 100-x-y, in at.%) and the second dielec. layer comprises a thin film of a compd. oxide comprising a mixt. of Nb2O5 and ZrO2, a mixt. of Nb2O5 and ZnO and/or a mixt. of Nb2O5, ZrO2 and ZnO. Related recording methods and apps. using these media are also claimed.

ST antimony germanium tellurium alloy substrate optical recording medium; niobium zirconium zinc oxide dielec layer optical recording medium

IT Optical memory devices
Optical recording
(optical recording media and methods and app.)

IT Optical recording materials
(optical recording medium and two-layered optical recording medium)

IT 865832-09-3 865832-10-6 ***865832-11-7***
RL: DEV (Device component use); USES (Uses)
(recording layer; optical recording medium and two-layered optical recording medium)

IT 1313-96-8, Niobium oxide (Nb2O5) 1314-13-2, Zinc oxide, uses 1314-23-4, Zirconia, uses 7631-86-9, Silica, uses
RL: DEV (Device component use); USES (Uses)
(second dielec. layer contg.; optical recording medium and two-layered optical recording medium)

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Matsushita Denki Sangyou K K; JP 2002352472 A 2002 CAPLUS
(2) Matsushita Denki Sangyou K K; TW 527592 B 2002 CAPLUS

L10 ANSWER 3 OF 31 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2004:965166 CAPLUS <<LOGINID::20060822>>
DN 141:418008
ED Entered STN: 12 Nov 2004
TI Phase-change recording material and information recording medium
IN Ohno, Takashi; Horie, Michikazu
PA Mitsubishi Chemical Corporation, Japan
SO PCT Int. Appl., 110 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
IC ICM B41M005-26
ICS G11B007-24

CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004096567	A1	20041111	WO 2004-JP6112	20040428
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	JP 2004345349	A2	20041209	JP 2004-132085	20040427
	EP 1619037	A1	20060125	EP 2004-729993	20040428
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR				
	CN 1756668	A	20060405	CN 2004-80005595	20040428
	US 2005175822	A1	20050811	US 2005-104542	20050413
PRAI	JP 2003-125803	A	20030430		
	WO 2004-JP6112	W	20040428		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2004096567	ICM	B41M005-26
	ICS	G11B007-24
	IPCI	B41M0005-26 [ICM,7]; G11B0007-24 [ICS,7]
	IPCR	G11B0007-24 [I,A]; G11B0007-24 [I,C*]
	ECLA	G11B007/24S
JP 2004345349	IPCI	B41M0005-26 [ICM,7]; C22C0012-00 [ICS,7]; G11B0007-24 [ICS,7]
	IPCR	B41M0005-26 [I,A]; B41M0005-26 [I,C*]; C22C0012-00 [I,A]; C22C0012-00 [I,C*]; G11B0007-24 [I,A]; G11B0007-24 [I,C*]
	FTERM	2H111/EA04; 2H111/EA23; 2H111/EA36; 2H111/EA37; 2H111/EA40; 2H111/FA01; 2H111/FA12; 2H111/FA14; 2H111/FA23; 2H111/FA27; 2H111/FA28; 2H111/FB05; 2H111/FB06; 2H111/FB09; 2H111/FB12; 2H111/FB21; 5D029/JA01; 5D029/JB18; 5D029/JB35; 5D029/LA14; 5D029/LA15; 5D029/LA16; 5D029/LA17; 5D029/LB01; 5D029/LB07; 5D029/MA13
EP 1619037	IPCI	B41M0005-26 [ICM,7]; G11B0007-24 [ICS,7]
	ECLA	G11B007/24S
CN 1756668	IPCI	B41M0005-26 [I,A]; G11B0007-24 [I,A]
	ECLA	G11B007/24S
US 2005175822	IPCI	B32B0003-02 [ICM,7]
	IPCR	B32B0003-02 [I,A]; B32B0003-02 [I,C*]
	NCL	428/195.100
	ECLA	G11B007/243

AB A phase-change recording material enabling high-speed recording/erasure, excellent in recording signal characteristics, high in recorded signal storage stability, small in variation in reflectivity to the recorded signal even after long-term storage, and exhibiting an excellent recording signal characteristic even if overwrite is conducted again. An information recording medium using the material is also disclosed. The phase-change recording material is characterized in that the main component has a compn. expressed by formula Gex(InwSn1-w)yTezSb1-x-y-z (where the content of Sb is larger than any of those of Ge, In, Sn, and Te, and x, y, z and w representing the ratios among the nos. of atoms satisfy (i) 0.ltoreq.x.ltoreq.0.3, (ii) 0.07.ltoreq.y-z, (iii) w.times.y-z.ltoreq.0.1, (iv) 0<z, (v) (1-w).times.y.ltoreq.0.35, and (vi) 0.35.ltoreq.1-x-y-z).

ST phase change recording material rewritable disk

IT Erasable optical disks
(phase-change recording material and information recording medium showing improved overwrite properties)

IT ***791621-14-2*** ***791621-16-4*** ***791621-17-5***
791621-18-6 791621-19-7 791621-21-1 791621-23-3

RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(phase-change recording material and information recording medium showing improved overwrite properties)

IT 1306-38-3, Cerium oxide, processes 1314-13-2, Zinc oxide, processes 1314-98-3, Zinc sulfide, processes 12064-98-1, Germanium nitride (GeN) 12340-04-4, Yttrium oxide sulfide (Y2O2S)
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(protective coating layer; phase-change recording material and information recording medium showing improved overwrite properties)

RE.CNT 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Eastman Kodak Co; JP 04-501742 A 1992
(2) Eastman Kodak Co; EP 445148 A 1992 CAPLUS
(3) Eastman Kodak Co; US 4904577 A 1992 CAPLUS
(4) Hitachi Ltd; US 20030064211 A1 2003
(5) Hitachi Ltd; JP 200391872 A 2003
(6) Lg Electronics Inc; JP 09-293269 A 1997 CAPLUS
(7) Lg Electronics Inc; GB 2312083 A 1997 CAPLUS
(8) Lg Electronics Inc; US 5789055 A 1997
(9) Mitsubishi Chemical Corp; EP 1107244 A2 2001 CAPLUS
(10) Mitsubishi Chemical Corp; US 20010003641 A1 2001
(11) Mitsubishi Chemical Corp; JP 2001331973 A 2001 CAPLUS
(12) Mitsubishi Chemical Corp; EP 1293974 A1 2002 CAPLUS
(13) Mitsubishi Chemical Corp; JP 200174741 A 2002
(14) Mitsubishi Chemical Corp; US 20020114915 A1 2002

L10 ANSWER 4 OF 31 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2004:905319 CAPLUS <<LOGINID::20060822>>
DN 141:386459
ED Entered STN: 29 Oct 2004
TI A rewritable optical disk with improved high-linear velocity data recording/reproduction characteristics and data recording apparatus
IN Shingai, Hiroshi; Kato, Tatsuya; Hirata, Hideki
PA TDK Corporation, Japan
SO U.S. Pat. Appl. Publ., 18 pp.
CODEN: USXXCO
DT Patent
LA English
IC ICM G11B007-24
INCL 369094000; 369288000; 369047530; 369059110
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 2004213124	A1	20041028	US 2004-825895	20040416
JP 2004322556	A2	20041118	JP 2003-123073	20030428
PRAI JP 2003-123073	A	20030428		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 2004213124	ICM	G11B007-24
	INCL	369094000; 369288000; 369047530; 369059110
	IPCI	G11B0007-24 [ICM,7]
	IPCR	G11B0007-00 [I,C*]; G11B0007-0045 [I,A]
	NCL	369/094.000; 369/047.530; 369/059.110; 369/288.000
	ECLA	G11B007/0045S; G11B007/243; G11B007/257
JP 2004322556	IPCI	B41M0005-26 [ICM,7]; G11B0007-0045 [ICS,7]; G11B0007-00 [ICS,7,C*]; G11B0007-125 [ICS,7]; G11B0007-24 [ICS,7]
	IPCR	G11B0007-00 [I,C*]; G11B0007-0045 [I,A]
	FTERM	2H111/EA04; 2H111/EA12; 2H111/EA23; 2H111/EA33; 2H111/FA01; 2H111/FA12; 2H111/FA18; 2H111/FA21; 2H111/FA23; 2H111/FA28; 2H111/FB05; 2H111/FB09; 2H111/FB12; 2H111/FB20; 2H111/FB30; 5D029/JA01; 5D029/JB18; 5D029/LB00; 5D029/LB07; 5D029/MA13; 5D029/MA27; 5D090/AA01; 5D090/BB05; 5D090/CC02; 5D090/CC14; 5D090/DD01; 5D090/EE01; 5D090/EE05; 5D090/FF09; 5D090/FF21; 5D090/KK04; 5D090/KK20;

5D789/AA23; 5D789/AA24; 5D789/AA26; 5D789/AA27;
5D789/AA31; 5D789/BA01; 5D789/BB04; 5D789/DA02;
5D789/HA25; 5D789/HA47; 5D789/HA49; 5D789/HA50

AB A rewritable optical disk is described that has improved high-linear velocity data recording characteristics, data reprodn. durability and storage reliability. A data recording app. is also described that can record data in the optical recording medium at a high linear velocity and directly overwrite data recorded in an optical medium at a high linear velocity. Thus, a rewritable optical disk contains a recording layer, a first dielec. layer disposed on the side of a light incidence plane through which the laser beam enters with respect to the recording layer, a second dielec. layer disposed on the side opposite to the light incidence plane with respect to the recording layer, a heat radiation layer disposed on the side of the light incidence plane with respect to the first dielec. layer and a reflective layer disposed on the side opposite to the light incidence plane with respect to the second dielec. layer. The recording layer contg. a phase-change material represented by an at. compn. formula: SbaTebGecTbd (.gtoreq.63 a .ltoreq.78, .gtoreq.2 c .ltoreq.10, .gtoreq.3 d .ltoreq.15, .gtoreq.75 (a+d) .ltoreq.82 and .gtoreq.3.3 a/b .ltoreq.4.9) in an amt. .gtoreq.95 at. %.

ST rewritable optical disk high linear velocity data recording reprodn

IT Erasable optical disks
(phase-change; rewritable optical disk with improved high-linear velocity data recording/reprodn. characteristics and data recording app.)

IT 1314-98-3, Zinc sulfide, uses 7631-86-9, Silica, uses
RL: DEV (Device component use); USES (Uses)
(dielec. layer; rewritable optical disk with improved high-linear velocity data recording/reprodn. characteristics and data recording app.)

IT 73663-19-1
RL: DEV (Device component use); USES (Uses)
(reflective layer; rewritable optical disk with improved high-linear velocity data recording/reprodn. characteristics and data recording app.)

IT 781662-79-1 781662-80-4 ***781662-81-5*** ***781662-82-6*** ***781662-83-7***
RL: DEV (Device component use); USES (Uses)
(rewritable optical disk with improved high-linear velocity data recording/reprodn. characteristics and data recording app.)

L10 ANSWER 5 OF 31 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2004:841938 CAPLUS <<LOGINID::20060822>>
DN 141:340493
ED Entered STN: 15 Oct 2004
TI Phase changeable optical recording material having initialized phase of controlled orientation
IN Abe, Mikiko; Yuzuhara, Hajime; Deguchi, Hiroshi; Suzuki, Eiko; Miura, Hiroshi
PA Ricoh Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 16 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM B41M005-26
ICS G11B007-24; G11B007-26
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2004284024	A2	20041014	JP 2003-75317	20030319
PRAI JP 2003-75317		20030319		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 2004284024	ICM	B41M005-26
	ICS	G11B007-24; G11B007-26
	IPCI	B41M0005-26 [ICM,7]; G11B0007-24 [ICS,7]; G11B0007-26 [ICS,7]
	IPCR	B41M0005-26 [I,A]; B41M0005-26 [I,C*]; G11B0007-24 [I,A]; G11B0007-24 [I,C*]; G11B0007-26 [I,A];

G11B0007-26 [I,C*]
FTERM 2H111/EA03; 2H111/EA04; 2H111/EA12; 2H111/EA23; 2H111/EA41; 2H111/FA12; 2H111/FA14; 2H111/FA24; 2H111/FB05; 2H111/FB06; 2H111/FB07; 2H111/FB09; 2H111/FB10; 2H111/FB12; 2H111/FB16; 2H111/FB17; 2H111/FB18; 2H111/FB19; 2H111/FB20; 2H111/FB21; 2H111/FB30; 5D029/HA06; 5D029/JA01; 5D029/JB35; 5D029/JC18; 5D029/LA14; 5D029/LB01; 5D029/LB07; 5D029/LB11; 5D121/AA01; 5D121/GG26

AB In the material comprising a support with tracks successively coated with 1st protective layer, a recording layer which changes between crystal and amorphous phases, 2nd protective layer, and a reflective layer, the crystal phase of the initialized recording layer with face interval 2.9-3.3 .ANG. and vertical to the support is oriented to have an angle of 30.+-.15.degree. to tangential line of the track. The material shows good recording and reading properties by laser beam.

ST phase change optical recording material crystal phase orientation; germanium antimony tellurium laser sensitive optical recording material

IT Optical recording materials
(erasable; phase changeable optical recording material having initialized phase of controlled orientation)

IT 7429-91-6, Dysprosium, uses 7439-92-1, Lead, uses 7439-96-5, Manganese, uses 7439-97-6, Mercury, uses 7440-22-4, Silver, uses 7440-28-0, Thallium, uses 7440-31-5, Tin, uses 7440-43-9, Cadmium, uses 7440-50-8, Copper, uses 7440-55-3, Gallium, uses 7440-69-9, Bismuth, uses 7440-74-6, Indium, uses
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(antimony-gallium-tellurium layer contg.; phase changeable optical recording material having initialized phase of controlled orientation)

IT 1314-36-9, Yttria, uses
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(metal oxide layer between recording layer and protective layer; phase changeable optical recording material having initialized phase of controlled orientation)

IT 1312-43-2, Indium oxide 1314-13-2, Zinca, uses 1314-23-4, Zirconia, uses 1317-36-8, Lead oxide, uses 1344-28-1, Alumina, uses 7631-86-9, Silica, uses 13463-67-7, Titania, uses 21651-19-4, Tin oxide (SnO)
RL: TEM (Technical or engineered material use); USES (Uses)
(metal oxide layer between recording layer and protective layer; phase changeable optical recording material having initialized phase of controlled orientation)

IT ***773104-42-0*** 773104-43-1 773104-44-2 773104-45-3
RL: TEM (Technical or engineered material use); USES (Uses)
(phase changeable optical recording material having initialized phase of controlled orientation)

L10 ANSWER 6 OF 31 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2003:988555 CAPLUS <<LOGINID::20060822>>
DN 140:33677
ED Entered STN: 19 Dec 2003
TI Optical recording medium having specific recording layer
IN Shingai, Hiroshi; Utsunomiya, Hajime
PA TDK Corporation, Japan
SO Eur. Pat. Appl., 11 pp.
CODEN: EPXXDW
DT Patent
LA English
IC ICM G11B007-24
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1372149	A1	20031217	EP 2003-13326	20030613
	EP 1372149	B1	20051019		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	JP 2004017394	A2	20040122	JP 2002-173801	20020614
	US 2003232278	A1	20031218	US 2003-460167	20030613
	US 7083894	B2	20060801		

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     CN 1471096            A     20040128    CN 2003-143033         20030613
PRAI JP 2002-173801        A     20020614
CLASS
 PATENT NO.       CLASS  PATENT FAMILY CLASSIFICATION CODES
 --------------   -----  ----------------------------------------------
 EP 1372149       ICM    G11B007-24
                  IPCI   G11B0007-24 [ICM,7]
                  IPCR   G11B0007-24 [I,C*]; G11B0007-243 [I,A]
                  ECLA   G11B007/243
 JP 2004017394    IPCI   B41M0005-26 [ICM,7]; G11B0007-24 [ICS,7]
                  IPCR   G11B0007-24 [I,C*]; G11B0007-243 [I,A]
                  FTERM  2H111/EA04; 2H111/EA23; 2H111/EA33; 2H111/EA39;
                         2H111/FA01; 2H111/FB05; 2H111/FB09; 2H111/FB12;
                         2H111/FB16; 2H111/FB17; 2H111/FB21; 2H111/FB30;
                         5D029/JA01
 US 2003232278    IPCI   G11B0007-24 [I,A]
                  IPCR   G11B0007-24 [I,C*]; G11B0007-243 [I,A]
                  NCL    430/270.120
                  ECLA   G11B007/243
 CN 1471096       IPCI   G11B0007-24 [ICM,7]
                  IPCR   G11B0007-24 [I,C*]; G11B0007-243 [I,A]
                  ECLA   G11B007/243
AB   There is provided an optical recording medium having a phase-change
     recording layer formed based on a drastically new concept of making the
     content of Mn still higher than the prior art while using Sb as a main
     component.  The optical recording medium has a recording layer composed of
     a plurality of elements, and the recording layer contains Sb, and also has
     an Mn content of .gtoreq.20 at. % but not .gtoreq.40 at. %, on condition
     that the total amt. of all the elements composing the recording layer is
     100 at. %.
ST   optical recording layer
IT   Optical recording materials
        (erasable; optical recording medium)
IT   117915-19-2P   123485-20-1P   488150-90-9P   634179-35-4P
       ***634179-36-5P***     634179-37-6P   634179-38-7P   634179-39-8P
     634179-40-1P   634179-41-2P   634179-42-3P   634179-43-4P
     RL: DEV (Device component use); PNU (Preparation, unclassified); PREP
     (Preparation); USES (Uses)
        (recording layer of optical recording medium)
RE.CNT  5     THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Anon; PATENT ABSTRACTS OF JAPAN 1986, V010(302)
(2) Hitotsune, A; US 5958649 A 1999
(3) Kureha Chem Ind; JP 61115317 A 1986 CAPLUS
(4) Matsushita Electric; EP 1189216 A 2002 CAPLUS
(5) Miyamoto, M; US 2001016242 A1 2001 CAPLUS

L10  ANSWER 7 OF 31  CAPLUS  COPYRIGHT 2006 ACS on STN
AN   2003:945325  CAPLUS <<LOGINID::20060822>>
DN   140:10702
ED   Entered STN:  04 Dec 2003
TI   Phase-changeable optical recording material containing antimony and
     tellurium
IN   Shinkai, Hiroshi; Utsunomiya, Hajime
PA   TDK Corporation, Japan
SO   Jpn. Kokai Tokkyo Koho, 8 pp.
     CODEN: JKXXAF
DT   Patent
LA   Japanese
IC   ICM  B41M005-26
     ICS  G11B007-004; G11B007-24
CC   74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other
     Reprographic Processes)
FAN.CNT 1
     PATENT NO.          KIND   DATE        APPLICATION NO.        DATE
     --------------      ----   --------    -------------------    --------
PI   JP 2003341230        A2    20031203    JP 2002-151744         20020527
PRAI JP 2002-151744             20020527
CLASS
 PATENT NO.       CLASS  PATENT FAMILY CLASSIFICATION CODES
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 JP 2003341230    ICM    B41M005-26
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ICS G11B007-004; G11B007-24
IPCI B41M0005-26 [ICM,7]; G11B0007-004 [ICS,7]; G11B0007-00 [ICS,7,C*]; G11B0007-24 [ICS,7]
IPCR B41M0005-26 [I,A]; B41M0005-26 [I,C*]; G11B0007-00 [I,C*]; G11B0007-004 [I,A]; G11B0007-24 [I,A]; G11B0007-24 [I,C*]

AB SbTe (mainly contg. Sb) phase changeable optical recording material contains an element, in which the difference of electronegativity between the element and Te is .gtoreq.0.5. The material contains an element with electronegativity .ltoreq.1.6. The material is suited for high speed recording and shows good storage stability.

ST phase changeable optical recording material antimony tellurium; electronegativity element tellurium antimony optical recording

IT Optical recording materials
(phase-changeable optical recording material contg. antimony, tellurium, and element with controlled electronegativity)

IT 627877-20-7
RL: DEV (Device component use); USES (Uses)
(Tphase-changeable optical recording material contg. antimony, tellurium, and element with controlled electronegativity)

IT 627877-16-1 ***627877-17-2*** 627877-18-3 ***627877-19-4***
627877-21-8 627877-22-9 627877-23-0 627877-24-1 ***627877-25-2***
627877-26-3 627877-27-4 ***627877-28-5*** 627877-29-6
627877-30-9 ***627877-31-0*** 627877-32-1
627877-33-2 627877-34-3 627877-35-4 627877-36-5
RL: DEV (Device component use); USES (Uses)
(phase-changeable optical recording material contg. antimony, tellurium, and element with controlled electronegativity)

L10 ANSWER 8 OF 31 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2003:548430 CAPLUS <<LOGINID::20060822>>
DN 140:243494
ED Entered STN: 18 Jul 2003
TI Microstructural analysis of quaternary alloy (AgInSbTe)-based films for optical data storage
AU Mongia, Geeta; Bhatnagar, Promod K.
CS Department of Electronic Science, Univ. of Delhi, Delhi, 110021, India
SO Proceedings of SPIE-The International Society for Optical Engineering (2003), 4988(Advanced Optical Data Storage), 77-84
CODEN: PSISDG; ISSN: 0277-786X
PB SPIE-The International Society for Optical Engineering
DT Journal
LA English
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

AB In phase change recording, higher linear densities can be achieved with materials in which crystn. is dominated by growth. This is due to the fact that marks can be written with sharper edges, which give rise to lower jitter. Therefore AgInSbTe alloy based thin films appear to be one of the latest promising materials for optical data storage that has drawn worldwide attention. In the present paper (AgSbTe) x (In1-ySby) 1-x quaternary alloy based films for x = 0.2, 0.3, 0.4 and y = 0.7, were deposited using thermal evapn. technique under a high vacuum of 10-6 torr. The potentiality of the above mentioned films for a phase change optical memory was confirmed using DTA. The results show that this material has good glass forming ability. Further the micro-structural details of the films were studied using SEM (scanning electron microscopic) technique. We also investigated the effect of 1 h thermal annealing on grain size of the films. Thermal annealing of the prepd. films was done at different temps. ranging between 200-400.degree. through radiant heating in vacuum at a pressure of ~10-5 torr. The micro-structural analyses of the as-deposited and annealed films are presented here. This also explains the effect of change in compn. as well as change in annealing temp. on the cryst. phases formed on the film.

ST quaternary silver indium antimony tellurium alloy optical data storage

IT Microstructure
Optical recording materials
(microstructural anal. of quaternary alloy (AgInSbTe)-based films for optical data storage)

IT Annealing
(microstructural anal. of quaternary alloy (AgInSbTe)-based films for optical data storage in relation to annealing temp.)

IT ***667417-24-5P*** 667417-25-6P 667417-26-7P
RL: PNU (Preparation, unclassified); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(microstructural anal. of quaternary alloy (AgInSbTe)-based films for optical data storage)
RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Berry, W; Thin Film Technology 1968, P7
(2) Borg, H; proc SPIE 1991, V3864, P191
(3) Elliot, S; Physics of Amorphous materials 1992, P23
(4) Iwasaki, H; Jpn J Appl Phys 1993, V32, P5241 CAPLUS
(5) Jacobs, B; Jpn J Appl Phys 1997, V36, P491 CAPLUS
(6) Meinders, E; Jpn J Appl Phys 2001, V40, P1558 CAPLUS
(7) Mongia, G; J of Optical Enginnering To be Published 2003, V42(1) CAPLUS
(8) Tonami, J; Jpn J Appl Phys 2001, V40, P1639 CAPLUS
(9) Zhou, G; Jpn J Appl phys 1999, V38, P1625 CAPLUS

L10 ANSWER 9 OF 31 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2003:403587 CAPLUS <<LOGINID::20060822>>
DN 138:409443
ED Entered STN: 27 May 2003
TI Phase-changeable optical recording material
IN Mizutani, Miki; Kageyama, Yoshiyuki; Harigai, Masato; Yuzuhara, Hajime; Suzuki, Eiko; Miura, Hiroshi; Tashiro, Hiroko; Abe, Mikiko
PA Ricoh Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM B41M005-26
ICS G11B007-24
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2003154754	A2	20030527	JP 2001-358365	20011122
PRAI JP 2001-358365		20011122		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 2003154754	ICM	B41M005-26
	ICS	G11B007-24
	IPCI	B41M0005-26 [ICM,7]; G11B0007-24 [ICS,7]
	IPCR	B41M0005-26 [I,A]; B41M0005-26 [I,C*]; G11B0007-24 [I,A]; G11B0007-24 [I,C*]

AB The material, recorded by reversible phase change between crystal and amorphous phase caused by laser irradn., contains Ge.alpha.Ga.beta.Cu.gamma.Sb.delta.Te.epsilon. [.alpha., .beta., .gamma., .delta., .epsilon. are at.% of the element; .alpha. = 0-5; .beta. = 1-5; .gamma. = 1-10; .delta. = 65-81; .epsilon. = 13-24; .alpha. + .beta. + .gamma. + .delta. + .epsilon. = 100]. The material shows good recording and erasing property on high linear velocity recording.
ST phase change optical recording material; germanium gallium copper antimony tellurium optical recording material
IT Optical recording materials
(phase-changeable optical recording material)
IT 528878-57-1 528878-58-2 528878-59-3 528878-60-6 528878-62-8 528878-63-9 528878-64-0 ***528878-65-1***
RL: DEV (Device component use); USES (Uses)
(phase-changeable optical recording material)

L10 ANSWER 10 OF 31 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2003:240228 CAPLUS <<LOGINID::20060822>>
DN 138:262765
ED Entered STN: 28 Mar 2003
TI Erasable optical recording material with controlled initialization energy and reflectivity
IN Kato, Masaki; Nakamura, Yuki
PA Ricoh Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF

DT Patent
LA Japanese
IC ICM G11B007-26
ICS B41M005-26; G11B007-24
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 73
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2003091884	A2	20030328	JP 2001-286149	20010920
PRAI JP 2001-286149		20010920		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 2003091884	ICM	G11B007-26
	ICS	B41M005-26; G11B007-24
	IPCI	G11B0007-26 [ICM,7]; B41M0005-26 [ICS,7]; G11B0007-24 [ICS,7]
	IPCR	B41M0005-26 [I,A]; B41M0005-26 [I,C*]; G11B0007-24 [I,A]; G11B0007-24 [I,C*]; G11B0007-26 [I,A]; G11B0007-26 [I,C*]

AB In the material comprising a transparent support coated with a recording layer mainly contg. Ga, Sb, and Te, and optically recorded, read, and erased, the reflectivity of the material (R) changes according to the radiation energy d. for initialization (E), R shows discreet value in the range of E1 < E < E2, and the material is initialized at E < E1. The initial state of the material is optimized and the material shows good over-writability at high speed.
ST erasable optical recording material; initialization energy reflectivity optical recording material; antimony gallium tellurium optical recording layer
IT Optical recording materials
(erasable; erasable optical recording material with controlled initialization energy and reflectivity)
IT ***502447-94-1***
RL: DEV (Device component use); USES (Uses)
(recording layer; erasable optical recording material with controlled initialization energy and reflectivity)
IT 11106-92-6
RL: DEV (Device component use); USES (Uses)
(reflection layer; erasable optical recording material with controlled initialization energy and reflectivity)

L10 ANSWER 11 OF 31 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2003:221149 CAPLUS <<LOGINID::20060822>>
DN 138:409256
ED Entered STN: 21 Mar 2003
TI InSbTe phase-change materials for high performance multi-level recording
AU Daly-Flynn, Kelly; Strand, David
CS Energy Conversion Devices, Inc., Rochester Hills, MI, 48309, USA
SO Japanese Journal of Applied Physics, Part 1: Regular Papers, Short Notes & Review Papers (2003), 42(2B), 795-799
CODEN: JAPNDE
PB Japan Society of Applied Physics
DT Journal
LA English
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
AB Eutectic-based InSbTe phase-change materials have been developed for low sigma-to-dynamic range (SDR) multi-level (ML) performance at linear track velocities (LTVs) of 1.9 m/s to 6 m/s. Compns. with the stoichiometry Inx(Sb72Te28)100-x (3.9 < x < 45) were tested. Compns. that achieved low SDRs did so at 1.9 m/s, 3.5 m/s and 6 m/s. We found two min. in the SDR at concns. of x = 10% and x = 30% indium. We explain this unique finding through write-erase characteristics and crystal structure. At indium concns. lower than 10% and higher than 30%, the favored rhombohedral crystal structure was not the major phase formed, and the SDR increased. The min. in SDR at 10% and 30%, in conjunction with a max. at 20%, can be explained by fast solid-state crystn. time and slow melt recrystn. time.
ST antimony indium tellurium phase change recording compn DVDRW eutectic
IT Erasable optical disks

Optical reflection
(InSbTe phase-change materials for high performance multi-level recording)
IT Crystallization
(InSbTe phase-change materials for high performance multi-level recording in relation to)
IT Optical recording materials
(phase-change; InSbTe phase-change materials for high performance multi-level recording)
IT 158282-93-0 444717-35-5 ***529505-77-9***
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(InSbTe phase-change materials for high performance multi-level recording)
IT 1314-98-3, Zinc sulfide, uses 7631-86-9, Silica, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(InSbTe phase-change materials for high performance multi-level recording)
RE.CNT 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Anon; Disordered Materials: Science and Technology. Selected Papers by S R Ovshinsky 1982
(2) Daly-Flynn, K; Proc SPIE 2001, V4342, P94
(3) Handa, T; Jpn J Appl Phys 1993, V32, P5226 CAPLUS
(4) Horie, M; Proc SPIE 2000, V4090, P135 CAPLUS
(5) Maysunaga, T; ISOM 2001 Tech Dig P206
(6) McLaughlin, S; presented at ISOM/ODS 2002
(7) Ovshinsky, S; Mater Res Soc Symp Proc 1999, V554, P399 CAPLUS
(8) Ovshinsky, S; Phys Rev Lett 1968, V21, P1450
(9) O'Neill, M; Optical Data Storage 2000 Conf Dig P170
(10) Powelson, J; Analyze_CD analysis program

L10 ANSWER 12 OF 31 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2002:767824 CAPLUS <<LOGINID::20060822>>
DN 137:286550
ED Entered STN: 09 Oct 2002
TI Phase-changeable optical recording materials
IN Omachi, Noritake; Nakamura, Tadamasa; Ashida, Sumio; Yusu, Keiichiro; Suzuki, Katsumi
PA Toshiba Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM B41M005-26
ICS G11B007-24
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2002293032	A2	20021009	JP 2001-102049	20010330
PRAI JP 2001-102049		20010330		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 2002293032	ICM	B41M005-26
	ICS	G11B007-24
	IPCI	B41M0005-26 [ICM,7]; G11B0007-24 [ICS,7]
	IPCR	B41M0005-26 [I,A]; B41M0005-26 [I,C*]; G11B0007-24 [I,A]; G11B0007-24 [I,C*]

AB The material has a phase-changeable optical recording layer GeyMz(SbxTe1-x)1-y-z [M = Sn, Pb, or Sn and Pb; 0.60.ltoreq. x .ltoreq.0.85; 0< y + z .ltoreq.0.20; y .gtoreq.1/19z]. The material shows good thermal stability and erasing characteristics even when the recording layer is thin and shows high sensitivity.
ST optical recording antimony tellurium germanium tin lead
IT Optical recording materials
(phase-changeable optical recording material contg. antimony germanium tellurium and tin and/or lead)
IT ***466679-63-0*** ***466679-64-1*** ***466679-65-2***
466679-66-3 466679-67-4 ***466679-68-5*** ***466679-69-6***

466679-70-9 466679-71-0 466679-72-1 ***466679-74-3***
466679-75-4
RL: DEV (Device component use); USES (Uses)
(phase-changeable optical recording material contg. antimony germanium tellurium and tin and/or lead)

L10 ANSWER 13 OF 31 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2002:728725 CAPLUS <<LOGINID::20060822>>
DN 137:255447
ED Entered STN: 25 Sep 2002
TI Rewritable phase-change optical recording medium
IN Tashiro, Hiroko; Kageyama, Yoshiyuki; Harigai, Masato; Suzuki, Eiko; Yuzuhara, Hajime; Miura, Hiroshi
PA Ricoh Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM B41M005-26
ICS G11B007-0045; G11B007-24
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 56
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2002274042	A2	20020925	JP 2001-80026	20010321
PRAI JP 2001-80026		20010321		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 2002274042	ICM	B41M005-26
	ICS	G11B007-0045; G11B007-24
	IPCI	B41M0005-26 [ICM,7]; G11B0007-0045 [ICS,7]; G11B0007-00 [ICS,7,C*]; G11B0007-24 [ICS,7]
	IPCR	B41M0005-26 [I,A]; B41M0005-26 [I,C*]; G11B0007-00 [I,C*]; G11B0007-0045 [I,A]; G11B0007-24 [I,A]; G11B0007-24 [I,C*]

AB The optical recording medium comprises a recording layer mainly contg. Ge.alpha.Ga.beta.Au.gamma.Sb.delta.Te.epsilon. (.alpha. = 1-5, .beta. = 1-5, .gamma. = 1-10, .delta. = 70-81, .epsilon. = 13-24, .alpha. + .beta. + .gamma. + .delta. + .epsilon. = 100). The recording medium is capable of the same or superior high-d. recording as DVD-ROM and DVD-RW at high-speed recording at 8.5-17.5 m/s.
ST rewritable optical disk antimony tellurium alloy; phase change optical disk antimony tellurium alloy
IT Erasable optical disks
(rewritable phase-change optical recording medium contg. Sb-Te alloy recording layer)
IT 461423-88-1 461423-89-2 ***461423-90-5*** ***461423-91-6***
461423-92-7 461423-94-9 461423-95-0 461423-96-1
RL: DEV (Device component use); USES (Uses)
(in rewritable phase-change optical recording medium contg. Sb-Te alloy recording layer)
IT ***461423-97-2***
RL: TEM (Technical or engineered material use); USES (Uses)
(in rewritable phase-change optical recording medium contg. Sb-Te alloy recording layer)

L10 ANSWER 14 OF 31 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2002:695889 CAPLUS <<LOGINID::20060822>>
DN 137:239807
ED Entered STN: 13 Sep 2002
TI Optical information recording medium and recording /erasing method
IN Ohno, Takashi
PA Mitsubishi Chemical Corporation, Japan
SO PCT Int. Appl., 52 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
IC ICM B41M005-26
ICS G11B007-24; G11B007-0045

CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002070273	A1	20020912	WO 2002-JP1565	20020221
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	EP 1369256	A1	20031210	EP 2002-700682	20020221
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
	JP 2003220765	A2	20030805	JP 2002-49152	20020226
	US 2003063542	A1	20030403	US 2002-287582	20021105
	US 6707783	B2	20040316		
PRAI	JP 2001-62326	A	20010306		
	JP 2001-358898	A	20011126		
	WO 2002-JP1565	W	20020221		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2002070273	ICM	B41M005-26
	ICS	G11B007-24; G11B007-0045
	IPCI	B41M0005-26 [ICM,7]; G11B0007-24 [ICS,7]; G11B0007-0045 [ICS,7]; G11B0007-00 [ICS,7,C*]
	IPCR	B41M0005-36 [I,A]; B41M0005-36 [I,C*]; G11B0007-24 [I,C*]; G11B0007-243 [I,A]
	ECLA	B41M005/36; G11B007/243
EP 1369256	IPCI	B41M0005-26 [ICM,7]; G11B0007-24 [ICS,7]; G11B0007-0045 [ICS,7]; G11B0007-00 [ICS,7,C*]
	IPCR	B41M0005-36 [I,A]; B41M0005-36 [I,C*]; G11B0007-24 [I,C*]; G11B0007-243 [I,A]
	ECLA	B41M005/36; G11B007/243
JP 2003220765	IPCI	B41M0005-26 [ICM,7]; G11B0007-004 [ICS,7]; G11B0007-00 [ICS,7,C*]; G11B0007-24 [ICS,7]
	IPCR	B41M0005-26 [I,A]; B41M0005-26 [I,C*]; G11B0007-00 [I,C*]; G11B0007-004 [I,A]; G11B0007-24 [I,A]; G11B0007-24 [I,C*]
US 2003063542	IPCI	G11B0007-24 [ICM,7]
	IPCR	B41M0005-36 [I,A]; B41M0005-36 [I,C*]; G11B0007-24 [I,C*]; G11B0007-243 [I,A]
	NCL	369/059.110
	ECLA	B41M005/36; G11B007/243

AB An optical information recording medium which is excellent in storage stability and the data on which can be recorded / erased quickly. The optical information recording medium having a phase-change recording layer capable of having at least 2 phases is made of a material of contg. a main component represented by (AuxSb1-x)1-yGey [0.01 .ltoreq. x .ltoreq. 0.4, and 0 < y .ltoreq. 0.3].

ST optical information recording medium gold antimony germanium

IT Erasable optical disks
Optical memory devices
(optical information recording medium)

IT 79136-10-0 459174-36-8 459174-39-1 459174-43-7 459174-46-0
459174-49-3 459174-52-8 459174-53-9 459174-55-1
459174-57-3 459174-58-4 459174-59-5 459174-60-8 459174-61-9
459174-62-0 459174-63-1
RL: DEV (Device component use); USES (Uses)
(optical information recording medium)

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Asahi Chemical Industry Co Ltd; CA 1236693 A 1986
(2) Asahi Chemical Industry Co Ltd; EP 195532 A 1986
(3) Asahi Chemical Industry Co Ltd; DE 3671122 G 1986
(4) Asahi Chemical Industry Co Ltd; US 4670345 A 1986
(5) Asahi Chemical Industry Co Ltd; JP 61258787 A 1986 CAPLUS

(6) Asahi Chemical Industry Co Ltd; AU 8654074 A 1986
(7) Nippon Telegraph And Telephone Corp; JP 60179954 A 1985 CAPLUS
(8) Toshiba Corp; JP 01251342 A 1989 CAPLUS

L10 ANSWER 15 OF 31 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2001:534385 CAPLUS <<LOGINID::20060822>>
DN 135:129627
ED Entered STN: 25 Jul 2001
TI Phase change type optical recording medium showing excellent overwrite performance in extended period of time
IN Kikukawa, Takashi; Utsunomiya, Hajime
PA TDK Corporation, Japan
SO Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM B41M005-26
ICS G11B007-24
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001199166	A2	20010724	JP 2000-9461	20000118
	US 2001009708	A1	20010726	US 2001-760847	20010117
PRAI	JP 2000-9461	A	20000118		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 2001199166	ICM	B41M005-26
	ICS	G11B007-24
	IPCI	B41M0005-26 [ICM,7]; G11B0007-24 [ICS,7]
	IPCR	G11B0007-24 [I,C*]; G11B0007-243 [I,A]
US 2001009708	IPCI	B32B0003-02 [ICM,7]
	IPCR	G11B0007-24 [I,C*]; G11B0007-243 [I,A]
	NCL	428/064.100
	ECLA	G11B007/243

AB The recording layer of the title optical recording medium comprises Ag, In, Sb and Te as main components and Ge as a sub component, wherein the mole ratio of the above components satisfies (AgaInbSbcTed)(1-e/100)Gee [a = 2-20; b = 2-20; c = 35-80, d = 8-40; a+b+c+d = 100; e = 1-15]. The mole ratio is preferably e .gtoreq.1.8, e.ltoreq.8, or c = 58-80.
ST phase change optical recording material erasable optical disk; silver indium antimony tellurium germanium optical recording material
IT Group VA element compounds
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(antimony chalcogenides, antimony germanium indium silver telluride; in recording layer of phase change type optical disk showing excellent overwrite performance in extended period of time)
IT Telluride glasses
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(antimony germanium indium silver telluride; in recording layer of phase change type optical disk showing excellent overwrite performance in extended period of time)
IT Erasable optical disks
(phase change type optical recording medium showing excellent overwrite performance in extended period of time)
IT 7440-22-4, Silver, processes 7440-36-0, Antimony, processes 7440-56-4, Germanium, processes 7440-74-6, Indium, processes 13494-80-9, Tellurium, processes
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(antimony germanium indium silver telluride glass; in recording layer of phase change type optical disk showing excellent overwrite performance in extended period of time)
IT 7440-21-3, Silicon, processes
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(antimony indium silver silicon telluride glass; in recording layer of phase change type optical disk showing excellent overwrite performance

in extended period of time)

IT 7440-31-5, Tin, processes
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(antimony indium silver tin telluride glass; in recording layer of phase change type optical disk showing excellent overwrite performance in extended period of time)

IT 350819-61-3 350819-62-4 350819-63-5 350819-64-6 350819-65-7
350819-66-8 350819-67-9 350819-69-1 350819-70-4
350819-71-5 350819-72-6 350819-73-7
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(in recording layer of phase change type optical disk showing excellent overwrite performance in extended period of time)

L10 ANSWER 16 OF 31 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2000:819444 CAPLUS <<LOGINID::20060822>>
DN 133:358203
ED Entered STN: 22 Nov 2000
TI Controllable ovonic phase-change semiconductor memory device and methods of fabricating the same
IN Doan, Trung T.; Durcan, D. Mark; Gilgen, Brent D.
PA Micron Technology, Inc., USA
SO U.S., 23 pp., Cont.-in-part of U. S. Ser. No. 724,816.
CODEN: USXXAM
DT Patent
LA English
IC ICM H01L021-44
INCL 438597000
CC 76-3 (Electric Phenomena)
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6150253	A	20001121	US 1997-956594	19971023
	US 6147395	A	20001114	US 1996-724816	19961002
	EP 1065736	A2	20010103	EP 2000-202838	19971002
	EP 1065736	A3	20010110		
	EP 1065736	B1	20030827		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	EP 1296377	A2	20030326	EP 2002-79437	19971002
	EP 1296377	A3	20060125		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	AT 248439	E	20030915	AT 2000-202838	19971002
	US 6294452	B1	20010925	US 2000-586144	20000602
	US 6329666	B1	20011211	US 2000-586272	20000602
	US 6287887	B1	20010911	US 2000-653542	20000831
	US 6462353	B1	20021008	US 2000-703806	20001102
	US 6423621	B2	20010723	US 2001-964145	20010925
	US 2002016054	A1	20020207		
	US 2002009858	A1	20020124	US 2001-963842	20010925
	US 6825107	B2	20041130		
	US 2002175322	A1	20021128	US 2002-191222	20020709
	US 2003127669	A1	20030710	US 2003-346994	20030117
	US 6897467	B2	20050524		
	US 2004036065	A1	20040226	US 2003-644685	20030820
PRAI	US 1996-724816	A2	19961002		
	EP 1997-955058	A3	19971002		
	US 1997-956594	A1	19971023		
	US 2000-586144	A1	20000602		
	US 2001-964145	A1	20010925		
	US 2002-191222	A3	20020709		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 6150253	ICM	H01L021-44
	INCL	438597000
	IPCI	H01L0021-44 [ICM,7]; H01L0021-02 [ICM,7,C*]
	IPCR	H01L0027-24 [I,A]; H01L0027-24 [I,C*]; H01L0045-00 [I,A]; H01L0045-00 [I,C*]
	NCL	438/597.000; 257/E27.004; 257/E45.002; 438/095.000;

		438/120.000; 438/625.000
	ECLA	H01L027/24; H01L045/00B
US 6147395	IPCI	H01L0029-00 [ICM,7]
	IPCR	H01L0027-24 [I,A]; H01L0027-24 [I,C*]; H01L0045-00 [I,A]; H01L0045-00 [I,C*]
	NCL	257/529.000; 257/004.000; 257/041.000; 257/050.000; 257/775.000; 257/E27.004; 257/E45.002
	ECLA	H01L027/24; H01L045/00B
EP 1065736	IPCI	H01L0045-00 [ICM,6]; H01L0027-24 [ICS,6]
	ECLA	H01L027/24; H01L045/00B
EP 1296377	IPCI	H01L0045-00 [I,A]; H01L0027-24 [I,A]; H01L0021-768 [I,A]; H01L0021-70 [I,C*]
	ECLA	H01L027/24; H01L045/00B
AT 248439	IPCI	H01L0045-00 [ICM,7]; H01L0027-24 [ICS,7]
US 6294452	IPCI	H01L0021-44 [ICM,7]; H01L0021-02 [ICM,7,C*]
	IPCR	H01L0027-24 [I,A]; H01L0027-24 [I,C*]; H01L0045-00 [I,A]; H01L0045-00 [I,C*]
	NCL	438/597.000; 257/020.000; 257/529.000; 257/E27.004; 257/E45.002; 438/095.000; 438/150.000; 438/529.000
	ECLA	H01L027/24; H01L045/00B
US 6329666	IPCI	H01L0047-00 [ICM,7]
	IPCR	H01L0027-24 [I,A]; H01L0027-24 [I,C*]; H01L0045-00 [I,A]; H01L0045-00 [I,C*]
	NCL	257/003.000; 257/004.000; 257/041.000; 257/050.000; 257/529.000; 257/E27.004; 257/E45.002
	ECLA	H01L027/24; H01L045/00B
US 6287887	IPCI	H01L0021-00 [ICM,7]
	IPCR	H01L0027-24 [I,A]; H01L0027-24 [I,C*]; H01L0045-00 [I,A]; H01L0045-00 [I,C*]
	NCL	438/095.000; 257/004.000; 257/530.000; 257/E27.004; 257/E45.002; 438/130.000; 438/131.000
	ECLA	H01L027/24; H01L045/00B
US 6462353	IPCI	H01L0047-00 [ICM,7]; H01L0029-04 [ICS,7]; H01L0029-02 [ICS,7,C*]; H01L0029-41 [ICS,7]; H01L0029-40 [ICS,7,C*]
	IPCR	H01L0027-24 [I,A]; H01L0027-24 [I,C*]; H01L0045-00 [I,A]; H01L0045-00 [I,C*]
	NCL	257/003.000; 257/004.000; 257/005.000; 257/050.000; 257/529.000; 257/774.000; 257/775.000; 257/E27.004; 257/E45.002
	ECLA	H01L027/24; H01L045/00B
US 6423621	IPCI	H01L0021-44 [ICM,7]; H01L0021-02 [ICM,7,C*]
	NCL	438/597.000; 257/003.000; 257/020.000; 257/529.000; 257/530.000; 257/E27.004; 257/E45.002; 438/095.000; 438/128.000; 438/448.000
	ECLA	H01L027/24; H01L045/00B
US 2002009858	IPCI	H01L0021-336 [ICM,7]; H01L0021-02 [ICM,7,C*]
	IPCR	H01L0027-24 [I,A]; H01L0027-24 [I,C*]; H01L0045-00 [I,A]; H01L0045-00 [I,C*]
	NCL	438/305.000
	ECLA	H01L027/24; H01L045/00B
US 2002175322	IPCI	H01L0047-00 [ICM,7]
	IPCR	H01L0027-24 [I,A]; H01L0027-24 [I,C*]; H01L0045-00 [I,A]; H01L0045-00 [I,C*]
	NCL	257/003.000
	ECLA	H01L027/24; H01L045/00B
US 2003127669	IPCI	H01L0027-148 [ICM,7]
	IPCR	H01L0027-24 [I,A]; H01L0027-24 [I,C*]; H01L0045-00 [I,A]; H01L0045-00 [I,C*]
	NCL	257/246.000
	ECLA	H01L027/24; H01L045/00B
US 2004036065	IPCI	H01L0047-00 [ICM,7]
	IPCR	H01L0027-24 [I,A]; H01L0027-24 [I,C*]; H01L0045-00 [I,A]; H01L0045-00 [I,C*]
	NCL	257/003.000
	ECLA	H01L027/24; H01L045/00B

AB An ovonic phase-change semiconductor memory device having a reduced area of contact between electrodes of chalcogenide memories, and methods of forming the same. Such memory devices are formed by forming a tip protruding from a lower surface of a lower electrode element. An insulative material is applied over the lower electrode such that an upper surface of the tip is exposed. A chalcogenide material and an upper electrode are either formed atop the tip, or the tip is etched into the

insulative material and the chalcogenide material and upper electrode are deposited within the recess. This allows the memory cells to be made smaller and allows the overall power requirements for the memory cell to be minimized.

ST ovonic phase change semiconductor memory antimony germanium tellurium

IT Semiconductor device fabrication
Semiconductor memory devices
(controllable ovonic phase-change semiconductor memory device and methods of fabricating same)

IT Dielectric films
Etching
(controllable ovonic phase-change semiconductor memory device and methods of fabricating using)

IT Chalcogenides
Oxides (inorganic), processes
Tellurides
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(controllable ovonic phase-change semiconductor memory device and methods of fabricating using)

IT Films
Films
(elec. conductive; controllable ovonic phase-change semiconductor memory device and methods of fabricating using)

IT Electric conductors
Electric conductors
(films; controllable ovonic phase-change semiconductor memory device and methods of fabricating using)

IT 1327-50-0, Antimony telluride 52503-00-1, Germanium telluride 127860-51-9, Antimony germanium telluride ***306299-25-2*** , Antimony bal., germanium 15-50, tellurium 0-70 (atomic) 306299-27-4, Antimony bal., germanium 17-44, tellurium 40-60 (atomic)
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(controllable ovonic phase-change semiconductor memory device and methods of fabricating using)

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Gonzaler; US 5879955 1995 CAPLUS
(2) Ovshinsky; US 5296716 1994 CAPLUS
(3) Zahorik; US 5789277 1998 CAPLUS

L10 ANSWER 17 OF 31 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1999:648997 CAPLUS <<LOGINID::20060822>>

DN 131:279349

ED Entered STN: 12 Oct 1999

TI Manufacture of sputtering target for phase change-type optical recording disk

IN Kishi, Toshihito; Ito, Hiroyuki
PA Sumitomo Metal Mining Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C23C014-34
ICS B22F003-105; B22F005-00; C22C028-00; G11B007-26

CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 56

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 11279752	A2	19991012	JP 1998-80044	19980327
PRAI JP 1998-80044		19980327		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 11279752	ICM	C23C014-34
	ICS	B22F003-105; B22F005-00; C22C028-00; G11B007-26
	IPCI	C23C0014-34 [ICM,6]; B22F0003-105 [ICS,6]; B22F0005-00 [ICS,6]; C22C0028-00 [ICS,6]; G11B0007-26 [ICS,6]
	IPCR	B22F0003-105 [I,A]; B22F0003-105 [I,C*]; B22F0005-00

[I,A]; B22F0005-00 [I,C*]; C22C0028-00 [I,A]; C22C0028-00 [I,C*]; C23C0014-34 [I,A]; C23C0014-34 [I,C*]; G11B0007-26 [I,A]; G11B0007-26 [I,C*]

AB In manuf. of the sputtering targets composed of 3-50 at.% of Ge, Ag, and/or In, 10-50 at.% of Sb, .ltoreq.5 at.% of additives if necessary, and balance Te; the alloy powder is discharge plasma sintered by heating to a prescribed temp. within 30 min and by retaining at a prescribed temp. within 30 min. Preferably, the alloy powder is formed by atomizing and quenching of alloy melt. The time required for elevation of the temp. for the sintering can be shortened by carrying the discharge plasma sintering.

ST optical recording disk sputtering target alloy; antimony alloy sputtering target optical disk; plasma sintering sputtering target optical disk; phase change optical disk sputtering target; germanium alloy sputtering target optical disk; silver alloy sputtering target optical disk; indium alloy sputtering target optical disk; tellurium alloy sputtering target optical disk

IT Optical disks
Sputtering targets
(manuf. of Sb-Te alloy sputtering target for phase change optical recording disk by discharge plasma sintering)

IT Sintering
(plasma, alloy; manuf. of Sb-Te alloy sputtering target for phase change optical recording disk by discharge plasma sintering)

IT 130119-28-7, Antimony 22, germanium 22, tellurium 56 (atomic)
245671-98-1 , Antimony 10-50, germanium 0-50, indium 0-50, silver 0-50, tellurium 0-87 (atomic)
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(sputtering target; manuf. of Sb-Te alloy sputtering target for phase change optical recording disk by discharge plasma sintering)

L10 ANSWER 18 OF 31 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1999:188903 CAPLUS <<LOGINID::20060822>>
DN 130:202855
ED Entered STN: 23 Mar 1999
TI Heat treated and sintered sputtering target for deposition of optical recording layers
IN Iwasaki, Hiroko; Kageyama, Yoshiyuki; Harigaya, Makoto; Takahashi, Masaetsu; Deguchi, Hiroshi; Yamada, Katsuyuki; Hayashi, Yoshitaka; Ide, Yukio
PA Ricoh Company, Ltd., Japan
SO U.S., 12 pp., Cont.-in-part of U.S. Ser. No. 354,227, abandoned.
CODEN: USXXAM
DT Patent
LA English
IC ICM C23C014-14
ICS B41M005-26
INCL 204298130
CC 74-1 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 76
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5882493	A	19990316	US 1997-946880	19971008
	JP 2003003222	A2	20030108	JP 2002-66193	19941213
PRAI	JP 1993-341906	A	19931213		
	JP 1994-116013	A	19940502		
	US 1994-354227	B1	19941212		
	JP 1994-332532	A3	19941213		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 5882493	ICM	C23C014-14
	ICS	B41M005-26
	INCL	204298130
	IPCI	C23C0014-14 [ICM,6]; B41M0005-26 [ICS,6]
	IPCR	C23C0014-34 [I,A]; C23C0014-34 [I,C*]; G11B0007-24 [I,C*]; G11B0007-243 [I,A]
	NCL	204/298.130; 075/228.000; 075/247.000; 148/430.000; 148/513.000; 148/514.000; 419/033.000
	ECLA	C23C014/34B2; G11B007/243

JP 2003003222 IPCI C22C0012-00 [ICM,7]; B41M0005-26 [ICS,7]; C22F0001-16 [ICS,7]; C23C0014-34 [ICS,7]; G11B0007-24 [ICS,7]; G11B0007-26 [ICS,7]; C22F0001-00 [ICS,7]

AB A sputtering target, for forming a recording layer of an optical recording medium in which information is written and erased through a transition between two phases by using electromagnetic wave energy, consists of a heat-treated and sintered compn. represented by the formula.

ST sputtering antimony indium silver tellurium optical recording

IT Heat treatment
Optical disks
Optical recording materials
Sintering
Sputtering
Sputtering targets
(heat treated and sintered sputtering target for deposition of optical recording layers)

IT 1314-98-3, Zinc sulfide, processes 7631-86-9, Silica, processes ***220712-89-0*** , Antimony 15-83, indium 3-30, silver 2-30, tellurium 10-50 (atomic)
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(heat treated and sintered sputtering target for deposition of optical recording layers)

IT 7440-22-4, Silver, uses 7440-36-0, Antimony, uses 7440-74-6, Indium, uses 13494-80-9, Tellurium, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(heat treated and sintered sputtering target for deposition of optical recording layers)

IT 179867-27-7, Antimony 80, indium 5, silver 4, tellurium 11 (atomic)
179867-28-8, Antimony 64.5, indium 9, silver 5.5, tellurium 21 (atomic)
179867-29-9 , Antimony 50, indium 29, silver 5, tellurium 16 (atomic) 179867-30-2, Antimony 54, indium 13, silver 7, tellurium 26 (atomic) 179867-31-3, Antimony 62, indium 9, silver 8, tellurium 21 (atomic) 179867-32-4, Antimony 32, indium 13, silver 9, tellurium 46 (atomic) 179867-33-5, Antimony 57, indium 10, silver 9, tellurium 24 (atomic) 179867-34-6, Antimony 53, indium 13, silver 9, tellurium 25 (atomic) 179867-35-7, Antimony 41, indium 13, silver 9, tellurium 37 (atomic) 179867-36-8, Antimony 45, indium 13, silver 10, tellurium 32 (atomic) 179867-37-9, Antimony 47, indium 13, silver 12, tellurium 28 (atomic) 179867-38-0, Antimony 20, indium 25, silver 13, tellurium 42 (atomic) 179867-39-1, Antimony 57, indium 2, silver 20, tellurium 21 (atomic) 179867-40-4, Antimony 41, indium 19, silver 25, tellurium 15 (atomic) 179867-41-5, Antimony 12, indium 26, silver 28, tellurium 34 (atomic) 179867-42-6, Antimony 63.3, indium 8.8, nitrogen 2, silver 5.4, tellurium 20.6 (atomic) 179867-44-8, Antimony 60, indium 8.4, nitrogen 7, silver 5.1, tellurium 19.5 (atomic) 179867-46-0, Antimony 61, indium 13, silver 2, tellurium 24 (atomic) 220713-17-7, Antimony 87.9, indium 4, silver 0.1, tellurium 8 (atomic) 220713-18-8, Antimony 9, indium 17, silver 11, tellurium 63 (atomic) 220713-19-9, Antimony 55.9, indium 0.1, silver 7, tellurium 37 (atomic) 220713-20-2, Antimony 25, indium 43, silver 6, tellurium 26 (atomic) 220713-21-3, Antimony 78, indium 5, silver 13, tellurium 4 (atomic) 220713-22-4, Antimony 61.3, indium 8.6, nitrogen 5, silver 5.2, tellurium 20 (atomic)
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(recording layer; heat treated and sintered sputtering target for deposition of optical recording layers)

IT 7440-37-1, Argon, uses 7727-37-9, Nitrogen, uses
RL: NUU (Other use, unclassified); USES (Uses)
(sputtering gas; heat treated and sintered sputtering target for deposition of optical recording layers)

IT 151060-26-3, Antimony 40, indium 15, silver 15, tellurium 30 (atomic)
179867-13-1, Antimony 76, indium 8, silver 6, tellurium 10 (atomic)
179867-14-2, Antimony 60, indium 11, silver 7, tellurium 22 (atomic)
179867-15-3, Antimony 45, indium 27, silver 8, tellurium 20 (atomic)
179867-16-4, Antimony 47, indium 15, silver 10, tellurium 28 (atomic)
179867-17-5, Antimony 56, indium 11, silver 11, tellurium 22 (atomic)
179867-18-6, Antimony 31.5, indium 12, silver 12.5, tellurium 44 (atomic)
179867-19-7, Antimony 50, indium 12.5, silver 12.5, tellurium 25 (atomic)
179867-20-0, Antimony 35, indium 15, silver 12.5, tellurium 37.5 (atomic)
179867-21-1, Antimony 32.5, indium 15, silver 12.5, tellurium 40 (atomic)
179867-22-2, Antimony 37, indium 15, silver 13, tellurium 35 (atomic)

179867-23-3, Antimony 21, indium 22, silver 18, tellurium 39 (atomic)
179867-24-4, Antimony 52, indium 5, silver 20, tellurium 23 (atomic)
179867-25-5, Antimony 43, indium 21, silver 22, tellurium 14 (atomic)
179867-26-6, Antimony 20, indium 23, silver 27, tellurium 30 (atomic)
179867-45-9, Antimony 56, indium 15, silver 4, tellurium 25 (atomic)
220713-08-6, Antimony 74, indium 10, silver 1, tellurium 15 (atomic)
220713-09-7, Antimony 85, indium 3, silver 2, tellurium 10 (atomic)
220713-10-0, Antimony 17, indium 20, silver 8, tellurium 55 (atomic)
220713-11-1, Antimony 49, indium 1, silver 10, tellurium 40 (atomic)
220713-12-2, Antimony 18, indium 40, silver 12, tellurium 30 (atomic)
220713-13-3, Antimony 74, indium 6, silver 15, tellurium 5 (atomic)
220713-14-4, Antimony 10, indium 23, silver 27, tellurium 40 (atomic)
220713-15-5, Antimony 18, indium 8, silver 34, tellurium 40 (atomic)
220713-16-6, Antimony 82.5, indium 4, silver 0.5, tellurium 13 (atomic)
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(sputtering target; heat treated and sintered sputtering target for deposition of optical recording layers)

RE.CNT 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Anon; JP 62001146 1987 CAPLUS
(2) Anon; JP 62114136 1987 CAPLUS
(3) Anon; JP 03240590 1991 CAPLUS
(4) Anon; JP 04151286 1992 CAPLUS
(5) Anon; JP 04191089 1992 CAPLUS
(6) Anon; JP 04232779 1992 CAPLUS
(7) Anon; JP 05185732 1993 CAPLUS
(8) Anon; JP 06028710 1994 CAPLUS
(9) Anon; JP 06299342 1994 CAPLUS
(10) Anon; JP 06330298 1994
(11) Ide; US 5100700 1992
(12) Ide; US 5156693 1992 CAPLUS
(13) Ovshinsky; US 3530441 1970

L10 ANSWER 19 OF 31 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1996:494093 CAPLUS <<LOGINID::20060822>>

DN 125:156334

ED Entered STN: 20 Aug 1996

TI Sputtering target, method of producing the target, optical recording medium fabricated by using the sputtering target, and method of fabricating the optical recording medium

IN Yamada, Katsuyuki; Iwasaki, Hiroko; Ide, Yukio; Harigaya, Makoto; Kageyama, Yoshiyuki; Deguchi, Hiroshi

PA Ricoh Co., Ltd., Japan

SO Eur. Pat. Appl., 26 pp.
CODEN: EPXXDW

DT Patent

LA English

IC ICM G11B007-26
ICS G11B007-24; C23C014-34

CC 76-11 (Electric Phenomena)
Section cross-reference(s): 74, 75

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 717404	A1	19960619	EP 1995-119669	19951213
	EP 717404	B1	20020320		
	R: DE, FR, GB, IT, NL				
	JP 08022644	A2	19960123	JP 1994-332532	19941213
	JP 3693125	B2	20050907		
	JP 2003003222	A2	20030108	JP 2002-66193	19941213
	US 5785828	A	19980728	US 1995-571087	19951212
	EP 969457	A2	20000105	EP 1999-120157	19951213
	EP 969457	A3	20000112		
	R: DE, FR, GB, IT, NL				
	US 6280684	B1	20010828	US 2000-488063	20000119
	US 6503592	B1	20030107	US 2001-795637	20010228
PRAI	JP 1994-332532	A	19941213		
	JP 1993-341906	A	19931213		
	JP 1994-116013	A	19940502		
	US 1995-571087	A3	19951212		
	EP 1995-119669	A3	19951213		

US 1997-943601 A3 19971003
US 2000-488063 A3 20000119

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
EP 717404	ICM	G11B007-26
	ICS	G11B007-24; C23C014-34
	IPCI	G11B0007-26 [ICM,6]; G11B0007-24 [ICS,6]; C23C0014-34 [ICS,6]
	IPCR	C23C0014-06 [I,A]; C23C0014-06 [I,C*]; C23C0014-34 [I,A]; C23C0014-34 [I,C*]; G11B0007-24 [I,C*]; G11B0007-243 [I,A]; G11B0007-26 [I,A]; G11B0007-26 [I,C*]
	ECLA	C23C014/06D; C23C014/34B2; G11B007/243; G11B007/26
JP 08022644	IPCI	G11B0007-24 [ICM,7]; B41M0005-26 [ICS,7]; G11B0007-26 [ICS,7]
JP 2003003222	IPCI	C22C0012-00 [ICM,7]; B41M0005-26 [ICS,7]; C22F0001-16 [ICS,7]; C23C0014-34 [ICS,7]; G11B0007-24 [ICS,7]; G11B0007-26 [ICS,7]; C22F0001-00 [ICS,7]
US 5785828	IPCI	C23C0014-34 [ICM,6]
	IPCR	C23C0014-06 [I,A]; C23C0014-06 [I,C*]; C23C0014-34 [I,A]; C23C0014-34 [I,C*]; G11B0007-24 [I,C*]; G11B0007-243 [I,A]; G11B0007-26 [I,A]; G11B0007-26 [I,C*]
	NCL	204/298.130; 204/192.260; 428/064.500
	ECLA	C23C014/06D; C23C014/34B2; G11B007/243; G11B007/26
EP 969457	IPCI	G11B0007-26 [ICM,6]; G11B0007-24 [ICS,6]; C23C0014-34 [ICS,6]
	ECLA	C23C014/06D; C23C014/34B2; G11B007/26
US 6280684	IPCI	B22F0001-00 [ICM,7]; B22F0003-10 [ICS,7]; C22C0001-04 [ICS,7]
	IPCR	B22F0001-00 [I,A]; B22F0001-00 [I,C*]; B22F0003-10 [I,A]; B22F0003-10 [I,C*]; C22C0001-04 [I,A]; C22C0001-04 [I,C*]
	NCL	419/054.000; 419/033.000; 419/046.000
US 6503592	IPCI	B32B0003-02 [ICM,7]
	IPCR	B32B0003-02 [I,A]; B32B0003-02 [I,C*]
	NCL	428/064.100; 204/192.150; 204/192.260; 428/064.500; 430/270.130

AB Sputtering targets for fabricating recording layers for a phase-change type optical recording medium contain a compd. or mixt. including as constituent elements Ag, In, Te, and Sb with the resp. at.% of .alpha., .beta., .gamma., and .delta. thereof being in the relationship of 2 .ltoreq. .alpha. .ltoreq. 30, 3 .ltoreq. .beta. .ltoreq. 30, 10 .ltoreq. .gamma. .ltoreq. 50, 15 .ltoreq. .delta. .ltoreq. 83 and .alpha. + .beta. + .gamma. + .delta. = 100. Methods of producing the sputtering targets entail mixing Ag, In, Te, and Sb, fusing the mixt. at .gtoreq.600.degree., rapidly cooling the fused mixt. to produce a solid lump, pulverizing the lump, and then sintering the resulting particles; Sb may optionally be added to the particles prior to the sintering. Phase-change type optical recording medium includes a recording layer contg. as constituent elements Ag, In, Te, and Sb with the resp. at. percent of .alpha., .beta., .gamma., and .delta. thereof being in the relationship of 0 < .alpha. .ltoreq. 30, 0 < .beta. .ltoreq. 30, 10 .ltoreq. .gamma. .ltoreq. 50, 10 .ltoreq. .delta. .ltoreq. 80, and .alpha. + .beta. + .gamma. + .delta. = 100, and is capable of recording and erasing information by utilizing the phase changes of a recording material in the recording layer. Methods of fabricating the above phase-change type optical recording medium entail sputtering the above targets to produce a recording film.

ST sputtering target antimony indium silver tellurium; optical recording antimony indium silver tellurium; recording medium antimony indium silver tellurium

IT Recording apparatus
Recording materials
(optical, antimony-indium-silver-tellurium sputtering targets and their prepn. and optical recording media fabricated using the targets)

IT Sputtering
(targets, antimony-indium-silver-tellurium sputtering targets and their prepn. and optical recording media fabricated using the targets)

IT 7440-36-0, Antimony, processes 12002-77-6, Silver indium telluride (AgInTe2) 179867-27-7 179867-28-8 ***179867-29-9*** 179867-30-2 179867-31-3 179867-32-4 179867-33-5 179867-34-6 179867-35-7

179867-36-8 179867-37-9 179867-38-0 179867-39-1 179867-40-4
179867-41-5 179867-42-6 179867-43-7 179867-44-8 179867-46-0
179867-47-1
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(optical recording material; antimony-indium-silver-tellurium sputtering targets and their prepn. and optical recording media fabricated using the targets)

IT 151060-26-3 179867-13-1 179867-14-2 179867-15-3 179867-16-4
179867-17-5 179867-18-6 179867-19-7 179867-20-0 179867-21-1
179867-22-2 179867-23-3 179867-24-4 179867-25-5 179867-26-6
179867-45-9
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(sputtering target; antimony-indium-silver-tellurium sputtering targets and their prepn. and optical recording media fabricated using the targets)

L10 ANSWER 20 OF 31 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1993:638053 CAPLUS <<LOGINID::20060822>>
DN 119:238053
ED Entered STN: 27 Nov 1993
TI Laser phase-change recording media and its recording method
IN Ide, Yukio; Harigai, Masato; Kageyama, Yoshuki; Iwasaki, Hiroko
PA Ricoh Kk, Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM B41M005-26
ICS G11B007-24
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 75
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 05185731	A2	19930727	JP 1991-63830	19910306
JP 3029690	B2	20000404		
PRAI JP 1991-63830		19910306		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 05185731	ICM	B41M005-26
	ICS	G11B007-24
	IPCI	B41M0005-26 [ICM,5]; G11B0007-24 [ICS,5]

AB The recording media comprise a substrate successively covered with a recording layer of phase-change recording material Ag.alpha.In.beta.Te.gamma.Sb.delta. (5 .ltoreq. .alpha. .ltoreq. 22; 6 .ltoreq. .beta. .ltoreq. 24; 13 .ltoreq. .gamma. .ltoreq. 44; 18 .ltoreq. .delta. .ltoreq. 77; .alpha. + .beta. + .gamma. + .delta. = 100), an upper heat-resistant protection layer of hard C film consisting of C and H, and an optical reflection layer. The upper heat-resistant protection layer may be a graphite film. The media may have an under heat-resistant protection layer between the substrate and the recording layer. The recording method involves irradiating laser beams to the recording layer from the substrate-side, with the media rotating at the rate 1.2-1.4 m/s. The media are useful for a rewritable compact disk.
ST laser rewritable recording hard carbon; graphite coating laser rewritable recording; antimony indium silver tellurium optical recording
IT Recording materials
(optical, phase-change, antimony indium silver tellurium alloy, heat-resistant carbon layer for)
IT 7440-44-0, Carbon, uses 7782-42-5, Graphite, uses
RL: USES (Uses)
(heat-resistant protective layer, on laser phase-change recording material)
IT 151060-26-3 151060-27-4 151060-28-5 ***151124-83-3***
RL: USES (Uses)
(laser phase-change recording material, heat-resistant carbon layer for)

L10 ANSWER 21 OF 31 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1991:52964 CAPLUS <<LOGINID::20060822>>
DN 114:52964
ED Entered STN: 09 Feb 1991
TI Antimony indium tellurium alloy for erasable optical recording medium
IN Kobayashi, Tadashi
PA Toshiba Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM B41M005-26
ICS G11B007-24
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 56
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 02167784	A2	19900628	JP 1988-322074	19881222

PRAI JP 1988-322074 19881222
CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 02167784	ICM	B41M005-26
	ICS	G11B007-24
	IPCI	B41M0005-26 [ICM,5]; G11B0007-24 [ICS,5]

AB The title medium, showing change between equil. phase and nonequil. phase under beam, has a support and an alloy comprising InxSbyTez (x, y, z = at.%; x + y + z = 100) and having crystn. temp. .gtoreq.130.degree.. Thus, a glass support was sputtered to give In50Sb40Te10 alloy film to give the title medium for rapidly erasable recording.
ST optical erasable recording medium alloy; antimony indium tellurium alloy; laser recording erasable; high temp cryst alloy recording
IT Metallic glasses
RL: USES (Uses)
(antimony indium tellurium, for optical erasable recording materials)
IT Recording materials
(optical, erasable, antimony indium tellurium alloy, high temp.-cryst.)
IT 13494-80-9, Tellurium, uses and miscellaneous
RL: USES (Uses)
(-antimony-indium, for optical erasable recording materials)
IT 7440-74-6, Indium, uses and miscellaneous
RL: USES (Uses)
(-antimony-tellurium, for optical erasable recording materials)
IT 7440-36-0, Antimony, uses and miscellaneous
RL: USES (Uses)
(-indium-tellurium, for optical erasable recording materials)
IT 86729-28-4 113692-04-9 ***131411-38-6*** 131411-39-7 131411-40-0
RL: USES (Uses)
(laser erasable recording material, high temp.-cryst.)

L10 ANSWER 22 OF 31 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1990:45749 CAPLUS <<LOGINID::20060822>>
DN 112:45749
ED Entered STN: 04 Feb 1990
TI Erasable laser recording medium containing antimony-indium-tellurium alloys
IN Suzuki, Katsumi
PA Toshiba Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM G11B007-24
ICS B41M005-26
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 01014740	A2	19890118	JP 1987-168763	19870708

PRAI JP 1987-168763 19870708
CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 01014740	ICM	G11B007-24
	ICS	B41M005-26
	IPCI	G11B0007-24 [ICM,4]; B41M0005-26 [ICS,4]

AB In the title medium having a support and a recording layer in which information is recorded and erased by the irradn. of a light beam to change phases between a cryst. phase and an amorphous phase, the recording layer is prepd. from an alloy having a compn. of In50-xSb50-xTe2x (0 < x < 5).
ST laser recording medium erasable; indium alloy laser recording medium; antimony alloy laser recording medium; tellurium alloy laser recording medium
IT Glass, nonoxide
RL: USES (Uses)
(chalcogenide, for laser optical recording materials)
IT Recording materials
(optical, erasable-rerecordable, alloys for)
IT 7440-36-0, Antimony, uses and miscellaneous 7440-74-6, Indium, uses and miscellaneous 13494-80-9, Tellurium, uses and miscellaneous
RL: USES (Uses)
(chalcogenide glass contg., for laser optical recording materials)
IT 123460-04-8 ***124776-46-1***
RL: USES (Uses)
(erasable-rerecordable laser recording medium with recording layer of)

L10 ANSWER 23 OF 31 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1989:605586 CAPLUS <<LOGINID::20060822>>
DN 111:205586
ED Entered STN: 25 Nov 1989
TI Optical recording medium
IN Suzuki, Katsumi
PA Toshiba Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM G11B007-24
ICS B41M005-26
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 56
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 01007346	A2	19890111	JP 1987-163039	19870630

PRAI JP 1987-163039 19870630
CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 01007346	ICM	G11B007-24
	ICS	B41M005-26
	IPCI	G11B0007-24 [ICM,4]; B41M0005-26 [ICS,4]

AB The title recording medium capable of changing its cryst. phase to amorphous upon irradn. of a light beam has a recording layer which is made of .gtoreq.2 elements and which is made of a metal alloy whose liq. phase entropy of mixing is lower than that of the solid phase.
ST metal alloy optical recording medium
IT Metallic glasses
RL: USES (Uses)
(Antimony-indium-tellurium, for optical recording material)
IT Recording materials
(optical, metal alloys for)
IT ***123460-68-4***
RL: TEM (Technical or engineered material use); USES (Uses)
(optical recording medium from)

L10 ANSWER 24 OF 31 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1989:544193 CAPLUS <<LOGINID::20060822>>
DN 111:144193

ED Entered STN: 14 Oct 1989
TI Optical recording media
IN Suzuki, Katsumi
PA Toshiba Corp., Japan
SO Ger. Offen., 9 pp.
    CODEN: GWXXBX
DT Patent
LA German
IC ICM G11B007-24
    ICS C23C014-14
ICA G11B007-26
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other
    Reprographic Processes)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 3802679	A1	19880811	DE 1988-3802679	19880129
	DE 3802679	C2	19910627		
	JP 63187430	A2	19880803	JP 1987-19883	19870130
	US 4975355	A	19901204	US 1989-373648	19890628
PRAI	JP 1987-19883	A	19870130		
	US 1988-147288	B1	19880122		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
DE 3802679	ICM	G11B007-24
	ICS	C23C014-14
	ICA	G11B007-26
	IPCI	G11B0007-24 [ICM,4]; C23C0014-14 [ICS,4]; G11B0007-26 [ICA,4]
	IPCR	G11B0007-24 [I,A]; G11B0007-24 [I,C*]; G11B0007-243 [I,A]; G11B0007-254 [I,A]
JP 63187430	IPCI	G11B0007-24 [ICM,4]; B41M0005-26 [ICS,4]
	IPCR	G11B0007-24 [I,A]; G11B0007-24 [I,C*]; G11B0007-243 [I,A]; G11B0007-254 [I,A]
US 4975355	IPCI	G03C0001-72 [ICM,5]
	NCL	430/270.130; 346/135.100; 430/290.000; 430/346.000; 430/945.000

AB Optical recording media are described in which the recording layer, which is capable of undergoing a reversible light-induced phase change, comprises an alloy having the compn. In50-xSb50Tex, where x is given in at.% and 0 < x < 20.
ST indium antimony tellurium optical recording medium
IT Recording materials
       (optical, antimony-indium-tellurium alloys for)
IT 37257-75-3, Antimony 50, indium 50 (atomic) ***120376-00-3***
    120376-01-4 ***120376-02-5*** 120376-03-6 120376-04-7
    122738-01-6 122738-02-7
    RL: USES (Uses)
       (optical recording media with recording layer from)

L10 ANSWER 25 OF 31 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1989:203023 CAPLUS <<LOGINID::20060822>>
DN 110:203023
ED Entered STN: 26 May 1989
TI Erasable optical recording medium
IN Suzuki, Katsumi
PA Toshiba Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
    CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM G11B007-24
    ICS B41M005-26
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other
    Reprographic Processes)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 63234421	A2	19880929	JP 1987-67204	19870320
PRAI	JP 1987-67204		19870320		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 63234421	ICM	G11B007-24
	ICS	B41M005-26
	IPCI	G11B0007-24 [ICM,4]; B41M0005-26 [ICS,4]
	IPCR	B41M0005-26 [I,A]; B41M0005-26 [I,C*]; G11B0007-24 [I,A]; G11B0007-24 [I,C*]

AB The medium comprises a 1st protective layer, which consists of at least amorphous Si next to a recording layer, on a support, the recording layer of In50-xMxSb50 (0 < x < 20 at % and M = Te or Se), and a 2nd protective layer of amorphous next to the recording layer S or org. resin on the recording layer. The medium has a high recording stability and level, and does not generate initialization and erase failures.

ST amorphous silicon coating optical recording; indium antimony tellurium selenium recording; tellurium indium antimony optical recording; selenium indium antimony optical recording

IT Recording materials
(optical, indium tin tellurium or indium tin selenium)

IT ***120376-00-3*** 120376-01-4 ***120376-02-5*** 120376-03-6 120376-04-7 120376-05-8
RL: USES (Uses)
(optical recording layers, amorphous silicon coatings for)

IT 7440-21-3, Silicon, uses and miscellaneous
RL: USES (Uses)
(recordings of amorphous, for optical recording medium)

L10 ANSWER 26 OF 31 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1987:468310 CAPLUS <<LOGINID::20060822>>
DN 107:68310
ED Entered STN: 21 Aug 1987
TI Optical recording media
IN Morimoto, Isao; Itagaki, Kazumi; Mori, Koichi
PA Asahi Chemical Industry Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 13 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM B41M005-26
ICS G11B007-24
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 62053886	A2	19870309	JP 1985-290692	19851225
	JP 03080635	B4	19911225		
	JP 03178479	A2	19910802	JP 1990-329490	19901130
	JP 07025208	B4	19950322		
	JP 03178480	A2	19910802	JP 1990-329491	19901130
	JP 06094230	B4	19941124		
PRAI	JP 1984-280586	A1	19841226		
	JP 1985-33779	A1	19850222		
	JP 1985-100876	A1	19850513		
	JP 1985-290692		19851225		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 62053886	ICM	B41M005-26
	ICS	G11B007-24
	IPCI	B41M0005-26 [ICM,4]; G11B0007-24 [ICS,4]
	IPCR	G11B0007-24 [I,C*]; G11B0007-243 [I,A]
JP 03178479	IPCI	B41M0005-26 [ICM,5]; G11B0007-24 [ICS,5]
JP 03178480	IPCI	B41M0005-26 [ICM,5]; G11B0007-24 [ICS,5]

AB An optical recording film having a compn. of (SbxTe1-x)yGe1-y (0.05 .ltoreq. x .ltoreq. 0.7, 0.4 .ltoreq. y .ltoreq. 0.8) is prepd. Thus, a Ge40Sb20Te40 film was prepd. by vacuum deposition. The .eta.'s and attenuation coeffs. of the film before and after heat treatment at 250.degree. were 4.4 and 4.6, and 4.2 and 4.0, resp. Change of transmission after storage at 80.degree. for 7 days was small with Ge content >20 at.%.

ST optical recording alloy film; antimony germanium tellurium alloy film

IT Recording materials

(optical, antimony-germanium-tellurium films)
IT ***109658-00-6*** 109658-01-7, Antimony 35, germanium 20, tellurium 45 (atomic) 109658-02-8, Antimony 30, germanium 30, tellurium 40 (atomic) 109658-03-9, Antimony 20, germanium 40, tellurium 40 (atomic) 109658-04-0, Antimony 20, germanium 50, tellurium 30 (atomic) 109658-05-1, Antimony 10, germanium 60, tellurium 30 (atomic) 109658-06-2, Antimony 8, germanium 20, tellurium 72 (atomic) 109658-07-3, Antimony 16, germanium 20, tellurium 64 (atomic) 109658-08-4, Antimony 24, germanium 20, tellurium 56 (atomic) 109658-09-5, Antimony 44, germanium 20, tellurium 36 (atomic) 109658-10-8 109658-11-9, Antimony 10, germanium 50, tellurium 40 (atomic) 109658-12-0, Antimony 15, germanium 50, tellurium 35 (atomic) 109658-13-1, Antimony 12, germanium 40, tellurium 48 (atomic) 109658-14-2, Antimony 25, germanium 30, tellurium 45 (atomic) 109658-15-3, Antimony 6, germanium 40, tellurium 54 (atomic) 109658-16-4 109658-17-5, Antimony 15, germanium 40, tellurium 45 (atomic) 109658-18-6, Antimony 15, germanium 35, tellurium 50 (atomic) 109658-19-7 109658-20-0, Antimony 24, germanium 40, tellurium 36 (atomic) 109658-21-1, Antimony 28, germanium 30, tellurium 42 (atomic)
RL: TEM (Technical or engineered material use); USES (Uses)
(optical recording films from)

L10 ANSWER 27 OF 31 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1986:139382 CAPLUS <<LOGINID::20060822>>
DN 104:139382
ED Entered STN: 19 Apr 1986
TI Optical recording disk
IN Funakoshi, Norihiro
PA Nippon Telegraph and Telephone Public Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM G11B007-24
ICS B41M005-26; G11C013-04
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 56
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 60177446	A2	19850911	JP 1984-31458	19840223
JP 03052651	B4	19910812		
PRAI JP 1984-31458		19840223		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 60177446	ICM	G11B007-24
	ICS	B41M005-26; G11C013-04
	IPCI	G11B0007-24 [ICM,4]; B41M0005-26 [ICS,4]; G11C0013-04 [ICS,4]
	IPCR	G11B0007-24 [I,C*]; G11B0007-243 [I,A]

AB An optical recording disk has a recording layer made of an alloy of the formula (In1-x Sbx)1-yMy (M = Au, Ag, Cu, Pd, Pt, Al, Si, Ge, Ga, Sn, Te, Se, Bi; x = 55-80 wt.%, y = 0-20 wt.%). The recording layer may be overcoated with .gtoreq.1 of TeO2, V2O3, V3O5, TiO2, SiO2, MgF2, CeF3, and AlF3. The direct-read-after-write optical disk is erasable.
ST laser recording disk indium alloy; antimony alloy laser recording disk
IT Recording materials
(optical, laser-sensitive erasable, indium-antimony alloys for)
IT 1314-34-7 1314-62-1, uses and miscellaneous 7446-07-3 7631-86-9, uses and miscellaneous 7758-88-5 7783-40-6 7784-18-1 13463-67-7, uses and miscellaneous
RL: USES (Uses)
(coatings, protective, on laser recording disks)
IT 85266-00-8 101127-48-4 101127-49-5 101127-50-8 101127-51-9 101127-52-0 101127-53-1 101127-54-2 101127-55-3 101127-56-4 101127-57-5 101127-58-6 101127-59-7 101127-60-0 101127-61-1 101127-62-2 101127-63-3 101127-64-4 101127-65-5 101127-66-6 101127-67-7 101127-68-8 101127-69-9 101127-70-2 101127-71-3 101127-72-4 101127-73-5 101127-74-6 101127-75-7 ***101127-76-8*** ***101127-77-9*** 101127-78-0 101127-79-1 101127-80-4

101127-81-5
RL: USES (Uses)
(laser recording medium of)

L10 ANSWER 28 OF 31 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1981:557694 CAPLUS <<LOGINID::20060822>>
DN 95:157694
ED Entered STN: 12 May 1984
TI Enthalpies of mixing in the germanium-antimony-tellurium system
AU Al'fer, S. A.; Vecher, A. A.; Egorov, O. A.; Mechkovskii, L. A.
CS Beloruss. Gos. Univ., Minsk, USSR
SO Zhurnal Fizicheskoi Khimii (1981), 55(6), 1611-12
CODEN: ZFKHA9; ISSN: 0044-4537
DT Journal
LA Russian
CC 69-1 (Thermodynamics, Thermochemistry, and Thermal Properties)
Section cross-reference(s): 56
AB The heats of mixing in the binary systems Ge-Te, Ge-Sb, GeTe-Sb2Te3, and the ternary system Ge-Sb-Te were measured calorimetrically at 1250 K.
ST heat mixing germanium antimony tellurium; telluride antimony germanium heat mixing; alloying heat germanium antimony tellurium
IT Heat of mixing
(in antimony-germanium-tellurium system)
IT Heat of alloying
(of antimony, germanium, and tellurium)
IT ***79330-37-3***
RL: PRP (Properties)
(heat of formation of)
IT 12025-39-7
RL: PRP (Properties)
(heat of mixing of, with antimony telluride)
IT 1327-50-0
RL: PRP (Properties)
(heat of mixing of, with germanium telluride)

L10 ANSWER 29 OF 31 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1981:110182 CAPLUS <<LOGINID::20060822>>
DN 94:110182
ED Entered STN: 12 May 1984
TI Heats of mixing in ternary systems. I. Enthalpies of mixing of indium-antimony-tellurium
AU Gather, B.; Legendre, B.; Blachnik, R.
CS Gesamthochsch. Siegen, Siegen, 5900, Fed. Rep. Ger.
SO Journal of the Less-Common Metals (1981), 77(1), 71-80
CODEN: JCOMAH; ISSN: 0022-5088
DT Journal
LA English
CC 69-1 (Thermodynamics, Thermochemistry, and Thermal Properties)
Section cross-reference(s): 68
AB The heats of mixing in the ternary system In-Sb-Te were detd. at 918 K by using a heat-flow calorimeter. The data are presented in a graph of isoenthalpic curves and are compared with the calcd. values.
ST heat mixing indium antimony tellurium
IT Heat of alloying
Heat of mixing
(in antimony-indium-tellurium system)
IT ***57952-62-2***
RL: PRP (Properties)
(heats of mixing in)
IT 13494-80-9, properties
RL: PRP (Properties)
(heats of mixing in systems of antimony, indium and)
IT 7440-74-6, properties
RL: PRP (Properties)
(heats of mixing in systems of antimony, tellurium and)
IT 7440-36-0, properties
RL: PRP (Properties)
(heats of mixing in systems of indium, tellurium and)
IT 12030-32-9
RL: PRP (Properties)
(in ternary system, heats of mixing in relation to)

L10 ANSWER 30 OF 31 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1981:37318 CAPLUS <<LOGINID::20060822>>
DN 94:37318
ED Entered STN: 12 May 1984
TI Enthalpy mixing and the phase diagram of the indium-antimony-tellurium ternary system
AU Gather, B.; Blachnik, R.; Legendre, B.
CS Anorg. Chem., Univ.-GH-Siegen, Siegen, Fed. Rep. Ger.
SO Therm. Anal., [Proc. Int. Conf. Therm. Anal.], 6th (1980), Volume 2, 75-80. Editor(s): Hemminger, W. Publisher: Birkhaeuser, Basel, Switz. CODEN: 44RFAC
DT Conference
LA English
CC 69-1 (Thermodynamics, Thermochemistry, and Thermal Properties)
Section cross-reference(s): 56, 68
AB The heats of mixing were detd. of the system In-Sb-Te at 918 K by a heat flow calorimeter under Ar atm. The phase diagram data were evaluated in an earlier work (1979).
ST heat alloying indium antimony tellurium
IT Heat of alloying
(of antimony-indium-tellurium)
IT ***57952-62-2***
RL: PRP (Properties)
(heats of alloying of)
IT 13494-80-9, properties
RL: PRP (Properties)
(systems, antimony-indium-)
IT 7440-74-6, properties
RL: PRP (Properties)
(systems, antimony-tellurium-)
IT 7440-36-0, properties
RL: PRP (Properties)
(systems, indium-tellurium-)

L10 ANSWER 31 OF 31 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1976:36023 CAPLUS <<LOGINID::20060822>>
DN 84:36023
ED Entered STN: 12 May 1984
TI Measurement of the enthalpy of mixing in indium-tellurium-antimony, indium-lead-bismuth, systems by quantitative thermal analysis
AU Vecher, A. A.; Zal'tsman, L. D.; Mechkovskii, L. A.; Skoropanov, A. S.
CS Beloruss. Gos. Univ. im. Lenina, Minsk, USSR
SO Zhurnal Fizicheskoi Khimii (1975), 49(9), 2205-7
CODEN: ZFKHA9; ISSN: 0044-4537
DT Journal
LA Russian
CC 69-2 (Thermodynamics, Thermochemistry, and Thermal Properties)
Section cross-reference(s): 56
AB Mixing enthalpies of the ternary systems In-Te-Sb, In-Pb-Bi, In-Sb-Sn, and of the quasibinary system InSb-Sb2Te3 and the heats of fusion and of solid-soln. formation in the systems In-Sb and In-Sn were detd. by quant. DTA.
ST tellurium indium antimony enthalpy alloying; lead bismuth indium enthalpy alloying; enthalpy alloying ternary indium
IT Heat of mixing
(of antimony telluride with indium antimonide)
IT Heat of fusion and Heat of freezing
(of antimony-indium and indium-tin alloys)
IT Heat of alloying
(of antimony-indium-tellurium, bismuth-indium-lead and antimony-indium-tin alloys)
IT ***57952-62-2*** 57952-63-3 57952-64-4
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(heat of alloying of)
IT 37232-94-3 37345-85-0
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(heat of fusion of)
IT 1312-41-0, properties
RL: PRP (Properties)
(heat of mixing of, with antimony telluride)

```
IT   1327-50-0
     RL: PRP (Properties)
     (heat of mixing of, with indium antimonide)

=> file reg
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                         ENTRY    SESSION
FULL ESTIMATED COST                                      95.63     135.68

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)          SINCE FILE      TOTAL
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     FILE 'REGISTRY' ENTERED AT 13:27:28 ON 22 AUG 2006
L1          4777 S IN 0-1/MAC
L2          1966 S GE 4-6/MAC
L3           567 S TE 11-17/MAC
L4          2652 S SB 50-70/MAC
L5         37771 S MN 5-40/MAC
L6           567 S L3 AND L3
L7            66 S L4 AND L3
L8        381905 S (MN OR IN OR GE)/MAC
L9            51 S L7 AND L8

     FILE 'CAPLUS' ENTERED AT 13:30:08 ON 22 AUG 2006
L10           31 S L9

     FILE 'REGISTRY' ENTERED AT 13:31:00 ON 22 AUG 2006

=> s l9 and (l1 or l2 or l5)
L11          20 L9 AND (L1 OR L2 OR L5)

=> d all 1-20

L11  ANSWER 1 OF 20  REGISTRY  COPYRIGHT 2006 ACS on STN
RN   865832-11-7  REGISTRY
ED   Entered STN:  21 Oct 2005
CN   Antimony alloy, base, Sb 70-83,Te 11-28,Ge 2.1-6.2 (9CI)  (CA INDEX NAME)
MF   Ge . Sb . Te
CI   AYS
SR   CA
LC   STN Files:   CA, CAPLUS
```

DT.CA CAplus document type: Patent
RL.P Roles from patents: USES (Uses)

Component	Component Percent	Component Registry Number
Sb	70 - 83	7440-36-0
Te	11 - 28	13494-80-9
Ge	2.1 - 6.2	7440-56-4

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1

AN 143:356728 CA <<LOGINID::20060822>>
TI Optical recording medium and two layered optical recording medium, recording and reproducing method, and recording and reproducing apparatus using media
IN Shinkai, Masaru; Shinotsuka, Michiaki; Iwasa, Hiroyuki
PA Ricoh Company, Ltd., Japan
SO PCT Int. Appl., 64 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM G11B007-24
ICS G11B007-00
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2005091282	A1	20050929	WO 2005-JP5459	20050317
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
JP 2005302264	A2	20051027	JP 2005-13298	20050120

PRAI JP 2004-78370 20040318

AB The present invention provides an optical recording medium comprising a transparent first substrate and a first dielec. layer, a recording layer, a second dielec. layer and a reflective layer which are laminated on the first substrate in this order, wherein the recording layer comprises a thin layer comprising mainly an alloy represented by GexSbyTez (wherein 3.5 .ltoreq. x .ltoreq. 10, 70 .ltoreq. y .ltoreq. 80 and z = 100-x-y, in at.%) and the second dielec. layer comprises a thin film of a compd. oxide comprising a mixt. of Nb2O5 and ZrO2, a mixt. of Nb2O5 and ZnO and/or a mixt. of Nb2O5, ZrO2 and ZnO. Related recording methods and apps. using these media are also claimed.

ST antimony germanium tellurium alloy substrate optical recording medium; niobium zirconium zinc oxide dielec layer optical recording medium

IT Optical memory devices
Optical recording
(optical recording media and methods and app.)

IT Optical recording materials
(optical recording medium and two-layered optical recording medium)

IT 865832-09-3 865832-10-6 865832-11-7
RL: DEV (Device component use); USES (Uses)
(recording layer; optical recording medium and two-layered optical recording medium)

IT 1313-96-8, Niobium oxide (Nb2O5) 1314-13-2, Zinc oxide, uses 1314-23-4, Zirconia, uses 7631-86-9, Silica, uses
RL: DEV (Device component use); USES (Uses)
(second dielec. layer contg.; optical recording medium and two-layered optical recording medium)

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
(1) Matsushita Denki Sangyou K K; JP 2002352472 A 2002 CAPLUS
(2). Matsushita Denki Sangyou K K; TW 527592 B 2002 CAPLUS

L11 ANSWER 2 OF 20 REGISTRY COPYRIGHT 2006 ACS on STN
RN 781662-83-7 REGISTRY
ED Entered STN: 16 Nov 2004
CN Antimony alloy, base, Sb 65,Tb 17,Te 16,Ge 1.6,In 0.7 (9CI) (CA INDEX NAME)
MF Ge . In . Sb . Tb . Te
CI AYS
SR CA
LC STN Files: CA, CAPLUS, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: USES (Uses)

Component	Component Percent	Component Registry Number
Sb	65	7440-36-0
Tb	17	7440-27-9
Te	16	13494-80-9
Ge	1.6	7440-56-4
In	0.7	7440-74-6

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1

AN 141:386459 CA <<LOGINID::20060822>>
TI A rewritable optical disk with improved high-linear velocity data recording/reproduction characteristics and data recording apparatus
IN Shingai, Hiroshi; Kato, Tatsuya; Hirata, Hideki
PA TDK Corporation, Japan
SO U.S. Pat. Appl. Publ., 18 pp.
CODEN: USXXCO
DT Patent
LA English
IC ICM G11B007-24
NCL 369094000
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2004213124	A1	20041028	US 2004-825895	20040416
	JP 2004322556	A2	20041118	JP 2003-123073	20030428
PRAI	JP 2003-123073	20030428			

AB A rewritable optical disk is described that has improved high-linear velocity data recording characteristics, data reprodn. durability and storage reliability. A data recording app. is also described that can record data in the optical recording medium at a high linear velocity and directly overwrite data recorded in an optical medium at a high linear velocity. Thus, a rewritable optical disk contains a recording layer, a first dielec. layer disposed on the side of a light incidence plane through which the laser beam enters with respect to the recording layer, a second dielec. layer disposed on the side opposite to the light incidence plane with respect to the recording layer, a heat radiation layer disposed on the side of the light incidence plane with respect to the first dielec. layer and a reflective layer disposed on the side opposite to the light incidence plane with respect to the second dielec. layer. The recording layer contg. a phase-change material represented by an at. compn. formula: SbaTebGecTbd (.gtoreq.63 a .ltoreq.78, .gtoreq.2 c .ltoreq.10, .gtoreq.3 d .ltoreq.15, .gtoreq.75 (a+d) .ltoreq.82 and .gtoreq.3.3 a/b .ltoreq.4.9) in an amt. .gtoreq.95 at. %.
ST rewritable optical disk high linear velocity data recording reprodn
IT Erasable optical disks
(phase-change; rewritable optical disk with improved high-linear velocity data recording/reprodn. characteristics and data recording app.)
IT 1314-98-3, Zinc sulfide, uses 7631-86-9, Silica, uses

RL: DEV (Device component use); USES (Uses)
(dielec. layer; rewritable optical disk with improved high-linear velocity data recording/reprodn. characteristics and data recording app.)

IT 73663-19-1
RL: DEV (Device component use); USES (Uses)
(reflective layer; rewritable optical disk with improved high-linear velocity data recording/reprodn. characteristics and data recording app.)

IT 781662-79-1 781662-80-4 781662-81-5 781662-82-6 781662-83-7
RL: DEV (Device component use); USES (Uses)
(rewritable optical disk with improved high-linear velocity data recording/reprodn. characteristics and data recording app.)

L11 ANSWER 3 OF 20 REGISTRY COPYRIGHT 2006 ACS on STN
RN 781662-82-6 REGISTRY
ED Entered STN: 16 Nov 2004
CN Antimony alloy, base, Sb 66,Tb 16,Te 16,Ge 1.8,In 0.7 (9CI) (CA INDEX NAME)
MF Ge . In . Sb . Tb . Te
CI AYS
SR CA
LC STN Files: CA, CAPLUS, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: USES (Uses)

Component	Component Percent	Component Registry Number
Sb	66	7440-36-0
Tb	16	7440-27-9
Te	16	13494-80-9
Ge	1.8	7440-56-4
In	0.7	7440-74-6

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1

AN 141:386459 CA <<LOGINID::20060822>>
TI A rewritable optical disk with improved high-linear velocity data recording/reproduction characteristics and data recording apparatus
IN Shingai, Hiroshi; Kato, Tatsuya; Hirata, Hideki
PA TDK Corporation, Japan
SO U.S. Pat. Appl. Publ., 18 pp.
CODEN: USXXCO
DT Patent
LA English
IC ICM G11B007-24
NCL 369094000
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004213124	A1	20041028	US 2004-825895	20040416
JP 2004322556	A2	20041118	JP 2003-123073	20030428

PRAI JP 2003-123073 20030428
AB A rewritable optical disk is described that has improved high-linear velocity data recording characteristics, data reprodn. durability and storage reliability. A data recording app. is also described that can record data in the optical recording medium at a high linear velocity and directly overwrite data recorded in an optical medium at a high linear velocity. Thus, a rewritable optical disk contains a recording layer, a first dielec. layer disposed on the side of a light incidence plane through which the laser beam enters with respect to the recording layer, a second dielec. layer disposed on the side opposite to the light incidence plane with respect to the recording layer, a heat radiation layer disposed on the side of the light incidence plane with respect to the first dielec. layer and a reflective layer disposed on the side opposite to the light incidence plane with respect to the second dielec. layer. The recording

layer contg. a phase-change material represented by an at. compn. formula: SbaTebGecTbd (.gtoreq.63 a .ltoreq.78, .gtoreq.2 c .ltoreq.10, .gtoreq.3 d .ltoreq.15, .gtoreq.75 (a+d) .ltoreq.82 and .gtoreq.3.3 a/b .ltoreq.4.9) in ån amt. .gtoreq.95 at. %.

ST rewritable optical disk high linear velocity data recording reprodn

IT Erasable optical disks
(phase-change; rewritable optical disk with improved high-linear velocity data recording/reprodn. characteristics and data recording app.)

IT 1314-98-3, Zinc sulfide, uses 7631-86-9, Silica, uses
RL: DEV (Device component use); USES (Uses)
(dielec. layer; rewritable optical disk with improved high-linear velocity data recording/reprodn. characteristics and data recording app.)

IT 73663-19-1
RL: DEV (Device component use); USES (Uses)
(reflective layer; rewritable optical disk with improved high-linear velocity data recording/reprodn. characteristics and data recording app.)

IT 781662-79-1 781662-80-4 781662-81-5 781662-82-6 781662-83-7
RL: DEV (Device component use); USES (Uses)
(rewritable optical disk with improved high-linear velocity data recording/reprodn. characteristics and data recording app.)

L11 ANSWER 4 OF 20 REGISTRY COPYRIGHT 2006 ACS on STN
RN 781662-81-5 REGISTRY
ED Entered STN: 16 Nov 2004
CN Antimony alloy, base, Sb 69,Te 16,Tb 12,Ge 2.2,In 0.8 (9CI) (CA INDEX NAME)
MF Ge . In . Sb . Tb . Te
CI AYS
SR CA
LC STN Files: CA, CAPLUS, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: USES (Uses)

Component	Component Percent	Component Registry Number
Sb	69	7440-36-0
Te	16	13494-80-9
Tb	12	7440-27-9
Ge	2.2	7440-56-4
In	0.8	7440-74-6

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1

AN 141:386459 CA <<LOGINID::20060822>>
TI A rewritable optical disk with improved high-linear velocity data recording/reproduction characteristics and data recording apparatus
IN Shingai, Hiroshi; Kato, Tatsuya; Hirata, Hideki
PA TDK Corporation, Japan
SO U.S. Pat. Appl. Publ., 18 pp.
CODEN: USXXCO
DT Patent
LA English
IC ICM G11B007-24
NCL 369094000
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004213124	A1	20041028	US 2004-825895	20040416
JP 2004322556	A2	20041118	JP 2003-123073	20030428

PRAI JP 2003-123073 20030428
AB A rewritable optical disk is described that has improved high-linear velocity data recording characteristics, data reprodn. durability and storage reliability. A data recording app. is also described that can

record data in the optical recording medium at a high linear velocity and directly overwrite data recorded in an optical medium at a high linear velocity. Thus, a rewritable optical disk contains a recording layer, a first dielec. layer disposed on the side of a light incidence plane through which the laser beam enters with respect to the recording layer, a second dielec. layer disposed on the side opposite to the light incidence plane with respect to the recording layer, a heat radiation layer disposed on the side of the light incidence plane with respect to the first dielec. layer and a reflective layer disposed on the side opposite to the light incidence plane with respect to the second dielec. layer. The recording layer contg. a phase-change material represented by an at. compn. formula: SbaTebGecTbd (.gtoreq.63 a .ltoreq.78, .gtoreq.2 c .ltoreq.10, .gtoreq.3 d .ltoreq.15, .gtoreq.75 (a+d) .ltoreq.82 and .gtoreq.3.3 a/b .ltoreq.4.9) in an amt. .gtoreq.95 at. %.

ST rewritable optical disk high linear velocity data recording reprodn

IT Erasable optical disks
(phase-change; rewritable optical disk with improved high-linear velocity data recording/reprodn. characteristics and data recording app.)

IT 1314-98-3, Zinc sulfide, uses 7631-86-9, Silica, uses
RL: DEV (Device component use); USES (Uses)
(dielec. layer; rewritable optical disk with improved high-linear velocity data recording/reprodn. characteristics and data recording app.)

IT 73663-19-1
RL: DEV (Device component use); USES (Uses)
(reflective layer; rewritable optical disk with improved high-linear velocity data recording/reprodn. characteristics and data recording app.)

IT 781662-79-1 781662-80-4 781662-81-5 781662-82-6 781662-83-7
RL: DEV (Device component use); USES (Uses)
(rewritable optical disk with improved high-linear velocity data recording/reprodn. characteristics and data recording app.)

L11 ANSWER 5 OF 20 REGISTRY COPYRIGHT 2006 ACS on STN
RN 773104-42-0 REGISTRY
ED Entered STN: 01 Nov 2004
CN Antimony alloy, base, Sb 64-82,Te 14-34,Ge 1.2-4.3 (9CI) (CA INDEX NAME)
MF Ge . Sb . Te
CI AYS
SR CA
LC STN Files: CA, CAPLUS
DT.CA CAplus document type: Patent
RL.P Roles from patents: USES (Uses)

Component	Component Percent	Component Registry Number
Sb	64 - 82	7440-36-0
Te	14 - 34	13494-80-9
Ge	1.2 - 4.3	7440-56-4

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1

AN 141:340493 CA <<LOGINID::20060822>>
TI Phase changeable optical recording material having initialized phase of controlled orientation
IN Abe, Mikiko; Yuzuhara, Hajime; Deguchi, Hiroshi; Suzuki, Eiko; Miura, Hiroshi
PA Ricoh Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 16 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM B41M005-26
ICS G11B007-24; G11B007-26
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2004284024	A2	20041014	JP 2003-75317	20030319
PRAI	JP 2003-75317	20030319			

AB In the material comprising a support with tracks successively coated with 1st protective layer, a recording layer which changes between crystal and amorphous phases, 2nd protective layer, and a reflective layer, the crystal phase of the initialized recording layer with face interval 2.9-3.3 .ANG. and vertical to the support is oriented to have an angle of 30.+-.15.degree. to tangential line of the track. The material shows good recording and reading properties by laser beam.

ST phase change optical recording material crystal phase orientation; germanium antimony tellurium laser sensitive optical recording material

IT Optical recording materials
(erasable; phase changeable optical recording material having initialized phase of controlled orientation)

IT 7429-91-6, Dysprosium, uses 7439-92-1, Lead, uses 7439-96-5, Manganese, uses 7439-97-6, Mercury, uses 7440-22-4, Silver, uses 7440-28-0, Thallium, uses 7440-31-5, Tin, uses 7440-43-9, Cadmium, uses 7440-50-8, Copper, uses 7440-55-3, Gallium, uses 7440-69-9, Bismuth, uses 7440-74-6, Indium, uses
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(antimony-gallium-tellurium layer contg.; phase changeable optical recording material having initialized phase of controlled orientation)

IT 1314-36-9, Yttria, uses
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(metal oxide layer between recording layer and protective layer; phase changeable optical recording material having initialized phase of controlled orientation)

IT 1312-43-2, Indium oxide 1314-13-2, Zinca, uses 1314-23-4, Zirconia, uses 1317-36-8, Lead oxide, uses 1344-28-1, Alumina, uses 7631-86-9, Silica, uses 13463-67-7, Titania, uses 21651-19-4, Tin oxide (SnO)
RL: TEM (Technical or engineered material use); USES (Uses)
(metal oxide layer between recording layer and protective layer; phase changeable optical recording material having initialized phase of controlled orientation)

IT 773104-42-0 773104-43-1 773104-44-2 773104-45-3
RL: TEM (Technical or engineered material use); USES (Uses)
(phase changeable optical recording material having initialized phase of controlled orientation)

L11 ANSWER 6 OF 20 REGISTRY COPYRIGHT 2006 ACS on STN
RN 634179-36-5 REGISTRY
ED Entered STN: 05 Jan 2004
CN Antimony alloy, base, Sb 67,Mn 20,Te 13 (9CI) (CA INDEX NAME)
MF Mn . Sb . Te
CI AYS
SR CA
LC STN Files: CA, CAPLUS, USPAT2, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: PREP (Preparation); USES (Uses)

Component	Component Percent	Component Registry Number
Sb	67	7440-36-0
Mn	20	7439-96-5
Te	13	13494-80-9

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1

AN 140:33677 CA <<LOGINID::20060822>>
TI Optical recording medium having specific recording layer
IN Shingai, Hiroshi; Utsunomiya, Hajime
PA TDK Corporation, Japan
SO Eur. Pat. Appl., 11 pp.
CODEN: EPXXDW

DT Patent
LA English
IC ICM G11B007-24
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1372149	A1	20031217	EP 2003-13326	20030613
	EP 1372149	B1	20051019		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	JP 2004017394	A2	20040122	JP 2002-173801	20020614
	US 2003232278	A1	20031218	US 2003-460167	20030613
	US 7083894	B2	20060801		
	CN 1471096	A	20040128	CN 2003-143033	20030613
PRAI	JP 2002-173801	20020614			

AB There is provided an optical recording medium having a phase-change recording layer formed based on a drastically new concept of making the content of Mn still higher than the prior art while using Sb as a main component. The optical recording medium has a recording layer composed of a plurality of elements, and the recording layer contains Sb, and also has an Mn content of .gtoreq.20 at. % but not .gtoreq.40 at. %, on condition that the total amt. of all the elements composing the recording layer is 100 at. %.

ST optical recording layer
IT Optical recording materials
(erasable; optical recording medium)
IT 117915-19-2P 123485-20-1P 488150-90-9P 634179-35-4P 634179-36-5P 634179-37-6P 634179-38-7P 634179-39-8P 634179-40-1P 634179-41-2P 634179-42-3P 634179-43-4P
RL: DEV (Device component use); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses)
(recording layer of optical recording medium)
RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
(1) Anon; PATENT ABSTRACTS OF JAPAN 1986, V010(302)
(2) Hitotsune, A; US 5958649 A 1999
(3) Kureha Chem Ind; JP 61115317 A 1986 CAPLUS
(4) Matsushita Electric; EP 1189216 A 2002 CAPLUS
(5) Miyamoto, M; US 2001016242 A1 2001 CAPLUS

L11 ANSWER 7 OF 20 REGISTRY COPYRIGHT 2006 ACS on STN
RN 627877-33-2 REGISTRY
ED Entered STN: 19 Dec 2003
CN Antimony alloy, base, Sb 69,Te 17,Nb 8.5,Ge 4.1,In 0.9 (9CI) (CA INDEX NAME)
MF Ge . In . Nb . Sb . Te
CI AYS
SR CA
LC STN Files: CA, CAPLUS
DT.CA CAplus document type: Patent
RL.P Roles from patents: USES (Uses)

Component	Component Percent	Component Registry Number
Sb	69	7440-36-0
Te	17	13494-80-9
Nb	8.5	7440-03-1
Ge	4.1	7440-56-4
In	0.9	7440-74-6

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1

AN 140:10702 CA <<LOGINID::20060822>>
TI Phase-changeable optical recording material containing antimony and tellurium
IN Shinkai, Hiroshi; Utsunomiya, Hajime
PA TDK Corporation, Japan

SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM B41M005-26
ICS G11B007-004; G11B007-24
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003341230	A2	20031203	JP 2002-151744	20020527

PRAI JP 2002-151744 20020527
AB SbTe (mainly contg. Sb) phase changeable optical recording material contains an element, in which the difference of electronegativity between the element and Te is .gtoreq.0.5. The material contains an element with electronegativity .ltoreq.1.6. The material is suited for high speed recording and shows good storage stability.
ST phase changeable optical recording material antimony tellurium; electronegativity element tellurium antimony optical recording
IT Optical recording materials
(phase-changeable optical recording material contg. antimony, tellurium, and element with controlled electronegativity)
IT 627877-20-7
RL: DEV (Device component use); USES (Uses)
(Tphase-changeable optical recording material contg. antimony, tellurium, and element with controlled electronegativity)
IT 627877-16-1 627877-17-2 627877-18-3 627877-19-4 627877-21-8
627877-22-9 627877-23-0 627877-24-1 627877-25-2 627877-26-3
627877-27-4 627877-28-5 627877-29-6 627877-30-9 627877-31-0
627877-32-1 627877-33-2 627877-34-3 627877-35-4 627877-36-5
RL: DEV (Device component use); USES (Uses)
(phase-changeable optical recording material contg. antimony, tellurium, and element with controlled electronegativity)

L11 ANSWER 8 OF 20 REGISTRY COPYRIGHT 2006 ACS on STN
RN 627877-31-0 REGISTRY
ED Entered STN: 19 Dec 2003
CN Antimony alloy, base, Sb 69,Te 17,Hf 8.6,Ge 4.1,In 0.9 (9CI) (CA INDEX NAME)
MF Ge . Hf . In . Sb . Te
CI AYS
SR CA
LC STN Files: CA, CAPLUS
DT.CA CAplus document type: Patent
RL.P Roles from patents: USES (Uses)

Component	Component Percent	Component Registry Number
Sb	69	7440-36-0
Te	17	13494-80-9
Hf	8.6	7440-58-6
Ge	4.1	7440-56-4
In	0.9	7440-74-6

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1

AN 140:10702 CA <<LOGINID::20060822>>
TI Phase-changeable optical recording material containing antimony and tellurium
IN Shinkai, Hiroshi; Utsunomiya, Hajime
PA TDK Corporation, Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM B41M005-26
ICS G11B007-004; G11B007-24

CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2003341230	A2	20031203	JP 2002-151744	20020527

PRAI JP 2002-151744 20020527

AB SbTe (mainly contg. Sb) phase changeable optical recording material contains an element, in which the difference of electronegativity between the element and Te is .gtoreq.0.5. The material contains an element with electronegativity .ltoreq.1.6. The material is suited for high speed recording and shows good storage stability.

ST phase changeable optical recording material antimony tellurium; electronegativity element tellurium antimony optical recording

IT Optical recording materials
(phase-changeable optical recording material contg. antimony, tellurium, and element with controlled electronegativity)

IT 627877-20-7
RL: DEV (Device component use); USES (Uses)
(Tphase-changeable optical recording material contg. antimony, tellurium, and element with controlled electronegativity)

IT 627877-16-1 627877-17-2 627877-18-3 627877-19-4 627877-21-8
627877-22-9 627877-23-0 627877-24-1 627877-25-2 627877-26-3
627877-27-4 627877-28-5 627877-29-6 627877-30-9 627877-31-0
627877-32-1 627877-33-2 627877-34-3 627877-35-4 627877-36-5
RL: DEV (Device component use); USES (Uses)
(phase-changeable optical recording material contg. antimony, tellurium, and element with controlled electronegativity)

L11 ANSWER 9 OF 20 REGISTRY COPYRIGHT 2006 ACS on STN

RN 627877-30-9 REGISTRY

ED Entered STN: 19 Dec 2003

CN Antimony alloy, base, Sb 69,Te 17,V 8.7,Ge 4.1,In 1 (9CI) (CA INDEX NAME)

MF Ge . In . Sb . Te . V

CI AYS

SR CA

LC STN Files: CA, CAPLUS

DT.CA CAplus document type: Patent

RL.P Roles from patents: USES (Uses)

Component	Component Percent	Component Registry Number
Sb	69	7440-36-0
Te	17	13494-80-9
V	8.7	7440-62-2
Ge	4.1	7440-56-4
In	1	7440-74-6

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1

AN 140:10702 CA <<LOGINID::20060822>>

TI Phase-changeable optical recording material containing antimony and tellurium

IN Shinkai, Hiroshi; Utsunomiya, Hajime

PA TDK Corporation, Japan

SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM B41M005-26
ICS G11B007-004; G11B007-24

CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2003341230	A2	20031203	JP 2002-151744	20020527

PRAI JP 2002-151744 20020527

AB SbTe (mainly contg. Sb) phase changeable optical recording material contains an element, in which the difference of electronegativity between the element and Te is .gtoreq.0.5. The material contains an element with electronegativity .ltoreq.1.6. The material is suited for high speed recording and shows good storage stability.
ST phase changeable optical recording material antimony tellurium; electronegativity element tellurium antimony optical recording
IT Optical recording materials
(phase-changeable optical recording material contg. antimony, tellurium, and element with controlled electronegativity)
IT 627877-20-7
RL: DEV (Device component use); USES (Uses)
(Tphase-changeable optical recording material contg. antimony, tellurium, and element with controlled electronegativity)
IT 627877-16-1 627877-17-2 627877-18-3 627877-19-4 627877-21-8
627877-22-9 627877-23-0 627877-24-1 627877-25-2 627877-26-3
627877-27-4 627877-28-5 627877-29-6 627877-30-9 627877-31-0
627877-32-1 627877-33-2 627877-34-3 627877-35-4 627877-36-5
RL: DEV (Device component use); USES (Uses)
(phase-changeable optical recording material contg. antimony, tellurium, and element with controlled electronegativity)

L11 ANSWER 10 OF 20 REGISTRY COPYRIGHT 2006 ACS on STN
RN 627877-28-5 REGISTRY
ED Entered STN: 19 Dec 2003
CN Antimony alloy, base, Sb 68,Te 17,Zn 9.6,Ge 4.1,In 0.9 (9CI) (CA INDEX NAME)
MF Ge . In . Sb . Te . Zn
CI AYS
SR CA
LC STN Files: CA, CAPLUS
DT.CA CAplus document type: Patent
RL.P Roles from patents: USES (Uses)

Component	Component Percent	Component Registry Number
Sb	68	7440-36-0
Te	17	13494-80-9
Zn	9.6	7440-66-6
Ge	4.1	7440-56-4
In	0.9	7440-74-6

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1

AN 140:10702 CA <<LOGINID::20060822>>
TI Phase-changeable optical recording material containing antimony and tellurium
IN Shinkai, Hiroshi; Utsunomiya, Hajime
PA TDK Corporation, Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM B41M005-26
ICS G11B007-004; G11B007-24
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2003341230	A2	20031203	JP 2002-151744	20020527

PRAI JP 2002-151744 20020527
AB SbTe (mainly contg. Sb) phase changeable optical recording material contains an element, in which the difference of electronegativity between the element and Te is .gtoreq.0.5. The material contains an element with electronegativity .ltoreq.1.6. The material is suited for high speed recording and shows good storage stability.
ST phase changeable optical recording material antimony tellurium;

electronegativity element tellurium antimony optical recording
IT Optical recording materials
(phase-changeable optical recording material contg. antimony, tellurium, and element with controlled electronegativity)
IT 627877-20-7
RL: DEV (Device component use); USES (Uses)
(Tphase-changeable optical recording material contg. antimony, tellurium, and element with controlled electronegativity)
IT 627877-16-1 627877-17-2 627877-18-3 627877-19-4 627877-21-8
627877-22-9 627877-23-0 627877-24-1 627877-25-2 627877-26-3
627877-27-4 627877-28-5 627877-29-6 627877-30-9 627877-31-0
627877-32-1 627877-33-2 627877-34-3 627877-35-4 627877-36-5
RL: DEV (Device component use); USES (Uses)
(phase-changeable optical recording material contg. antimony, tellurium, and element with controlled electronegativity)

L11 ANSWER 11 OF 20 REGISTRY COPYRIGHT 2006 ACS on STN
RN 627877-25-2 REGISTRY
ED Entered STN: 19 Dec 2003
CN Antimony alloy, base, Sb 69,Te 17,Al 8.5,Ge 4.1,In 0.9 (9CI) (CA INDEX NAME)
MF Al . Ge . In . Sb . Te
CI AYS
SR CA
LC STN Files: CA, CAPLUS
DT.CA CAplus document type: Patent
RL.P Roles from patents: USES (Uses)

Component	Component Percent	Component Registry Number
Sb	69	7440-36-0
Te	17	13494-80-9
Al	8.5	7429-90-5
Ge	4.1	7440-56-4
In	0.9	7440-74-6

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1

AN 140:10702 CA <<LOGINID::20060822>>
TI Phase-changeable optical recording material containing antimony and tellurium
IN Shinkai, Hiroshi; Utsunomiya, Hajime
PA TDK Corporation, Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM B41M005-26
ICS G11B007-004; G11B007-24
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2003341230	A2	20031203	JP 2002-151744	20020527
PRAI JP 2002-151744		20020527		

AB SbTe (mainly contg. Sb) phase changeable optical recording material contains an element, in which the difference of electronegativity between the element and Te is .gtoreq.0.5. The material contains an element with electronegativity .ltoreq.1.6. The material is suited for high speed recording and shows good storage stability.
ST phase changeable optical recording material antimony tellurium; electronegativity element tellurium antimony optical recording
IT Optical recording materials
(phase-changeable optical recording material contg. antimony, tellurium, and element with controlled electronegativity)
IT 627877-20-7
RL: DEV (Device component use); USES (Uses)

(Tphase-changeable optical recording material contg. antimony, tellurium, and element with controlled electronegativity)

IT 627877-16-1 627877-17-2 627877-18-3 627877-19-4 627877-21-8
627877-22-9 627877-23-0 627877-24-1 627877-25-2 627877-26-3
627877-27-4 627877-28-5 627877-29-6 627877-30-9 627877-31-0
627877-32-1 627877-33-2 627877-34-3 627877-35-4 627877-36-5
RL: DEV (Device component use); USES (Uses)
(phase-changeable optical recording material contg. antimony, tellurium, and element with controlled electronegativity)

L11 ANSWER 12 OF 20 REGISTRY COPYRIGHT 2006 ACS on STN
RN 627877-19-4 REGISTRY
ED Entered STN: 19 Dec 2003
CN Antimony alloy, base, Sb 69,Te 17,Cr 9.1,Ge 4.1,In 1 (9CI) (CA INDEX NAME)
MF Cr . Ge . In . Sb . Te
CI AYS
SR CA
LC STN Files: CA, CAPLUS
DT.CA CAplus document type: Patent
RL.P Roles from patents: USES (Uses)

Component	Component Percent	Component Registry Number
Sb	69	7440-36-0
Te	17	13494-80-9
Cr	9.1	7440-47-3
Ge	4.1	7440-56-4
In	1	7440-74-6

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1

AN 140:10702 CA <<LOGINID::20060822>>
TI Phase-changeable optical recording material containing antimony and tellurium
IN Shinkai, Hiroshi; Utsunomiya, Hajime
PA TDK Corporation, Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM B41M005-26
ICS G11B007-004; G11B007-24
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003341230	A2	20031203	JP 2002-151744	20020527

PRAI JP 2002-151744 20020527
AB SbTe (mainly contg. Sb) phase changeable optical recording material contains an element, in which the difference of electronegativity between the element and Te is .gtoreq.0.5. The material contains an element with electronegativity .ltoreq.1.6. The material is suited for high speed recording and shows good storage stability.
ST phase changeable optical recording material antimony tellurium; electronegativity element tellurium antimony optical recording
IT Optical recording materials
(phase-changeable optical recording material contg. antimony, tellurium, and element with controlled electronegativity)
IT 627877-20-7
RL: DEV (Device component use); USES (Uses)
(Tphase-changeable optical recording material contg. antimony, tellurium, and element with controlled electronegativity)
IT 627877-16-1 627877-17-2 627877-18-3 627877-19-4 627877-21-8
627877-22-9 627877-23-0 627877-24-1 627877-25-2 627877-26-3
627877-27-4 627877-28-5 627877-29-6 627877-30-9 627877-31-0
627877-32-1 627877-33-2 627877-34-3 627877-35-4 627877-36-5

RL: DEV (Device component use); USES (Uses)
(phase-changeable optical recording material contg. antimony, tellurium, and element with controlled electronegativity)

L11 ANSWER 13 OF 20 REGISTRY COPYRIGHT 2006 ACS on STN
RN 627877-17-2 REGISTRY
ED Entered STN: 19 Dec 2003
CN Antimony alloy, base, Sb 69,Te 17,Mn 9.1,Ge 4,In 1 (9CI) (CA INDEX NAME)
MF Ge . In . Mn . Sb . Te
CI AYS
SR CA
LC STN Files: CA, CAPLUS
DT.CA CAplus document type: Patent
RL.P Roles from patents: USES (Uses)

Component	Component Percent	Component Registry Number
Sb	69	7440-36-0
Te	17	13494-80-9
Mn	9.1	7439-96-5
Ge	4	7440-56-4
In	1	7440-74-6

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1

AN 140:10702 CA <<LOGINID::20060822>>
TI Phase-changeable optical recording material containing antimony and tellurium
IN Shinkai, Hiroshi; Utsunomiya, Hajime
PA TDK Corporation, Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM B41M005-26
ICS G11B007-004; G11B007-24
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003341230	A2	20031203	JP 2002-151744	20020527

PRAI JP 2002-151744 20020527
AB SbTe (mainly contg. Sb) phase changeable optical recording material contains an element, in which the difference of electronegativity between the element and Te is .gtoreq.0.5. The material contains an element with electronegativity .ltoreq.1.6. The material is suited for high speed recording and shows good storage stability.
ST phase changeable optical recording material antimony tellurium; electronegativity element tellurium antimony optical recording
IT Optical recording materials
(phase-changeable optical recording material contg. antimony, tellurium, and element with controlled electronegativity)
IT 627877-20-7
RL: DEV (Device component use); USES (Uses)
(Tphase-changeable optical recording material contg. antimony, tellurium, and element with controlled electronegativity)
IT 627877-16-1 627877-17-2 627877-18-3 627877-19-4 627877-21-8
627877-22-9 627877-23-0 627877-24-1 627877-25-2 627877-26-3
627877-27-4 627877-28-5 627877-29-6 627877-30-9 627877-31-0
627877-32-1 627877-33-2 627877-34-3 627877-35-4 627877-36-5
RL: DEV (Device component use); USES (Uses)
(phase-changeable optical recording material contg. antimony, tellurium, and element with controlled electronegativity)

L11 ANSWER 14 OF 20 REGISTRY COPYRIGHT 2006 ACS on STN
RN 502447-94-1 REGISTRY
ED Entered STN: 09 Apr 2003

CN Antimony alloy, base, Sb 70-85,Te 15-25,Ge 0-13,Ga 2-9 (9CI) (CA INDEX NAME)
MF Ga . Ge . Sb . Te
CI AYS
SR CA
LC STN Files: CA, CAPLUS
DT.CA CAplus document type: Patent
RL.P Roles from patents: USES (Uses)

Component	Component Percent	Component Registry Number
Sb	70 - 85	7440-36-0
Te	15 - 25	13494-80-9
Ge	0 - 13	7440-56-4
Ga	2 - 9	7440-55-3

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1

AN 138:262765 CA <<LOGINID::20060822>>
TI Erasable optical recording material with controlled initialization energy and reflectivity
IN Kato, Masaki; Nakamura, Yuki
PA Ricoh Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM G11B007-26
ICS B41M005-26; G11B007-24
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 73
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003091884	A2	20030328	JP 2001-286149	20010920

PRAI JP 2001-286149 20010920
AB In the material comprising a transparent support coated with a recording layer mainly contg. Ga, Sb, and Te, and optically recorded, read, and erased, the reflectivity of the material (R) changes according to the radiation energy d. for initialization (E), R shows discreet value in the range of E1 < E < E2, and the material is initialized at E < E1. The initial state of the material is optimized and the material shows good over-writability at high speed.
ST erasable optical recording material; initialization energy reflectivity optical recording material; antimony gallium tellurium optical recording layer
IT Optical recording materials
(erasable; erasable optical recording material with controlled initialization energy and reflectivity)
IT 502447-94-1
RL: DEV (Device component use); USES (Uses)
(recording layer; erasable optical recording material with controlled initialization energy and reflectivity)
IT 11106-92-6
RL: DEV (Device component use); USES (Uses)
(reflection layer; erasable optical recording material with controlled initialization energy and reflectivity)

L11 ANSWER 15 OF 20 REGISTRY COPYRIGHT 2006 ACS on STN
RN 466679-75-4 REGISTRY
ED Entered STN: 28 Oct 2002
CN Antimony alloy, base, Sb 42-74,Te 11-36,Pb 0-31,Ge 0.5-13 (9CI) (CA INDEX NAME)
MF Ge . Pb . Sb . Te
CI AYS
SR CA
LC STN Files: CA, CAPLUS

DT.CA CAplus document type: Patent
RL.P Roles from patents: USES (Uses)

Component	Component Percent	Component Registry Number
Sb	42 - 74	7440-36-0
Te	11 - 36	13494-80-9
Pb	0 - 31	7439-92-1
Ge	0.5 - 13	7440-56-4

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1

AN 137:286550 CA <<LOGINID::20060822>>
TI Phase-changeable optical recording materials
IN Omachi, Noritake; Nakamura, Tadamasa; Ashida, Sumio; Yusu, Keiichiro; Suzuki, Katsumi
PA Toshiba Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM B41M005-26
ICS G11B007-24
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2002293032	A2	20021009	JP 2001-102049	20010330
PRAI JP 2001-102049	20010330			

AB The material has a phase-changeable optical recording layer GeyMz(SbxTe1-x)1-y-z [M = Sn, Pb, or Sn and Pb; 0.60.ltoreq. x .ltoreq.0.85; 0< y + z .ltoreq.0.20; y .gtoreq.1/19z]. The material shows good thermal stability and erasing characteristics even when the recording layer is thin and shows high sensitivity.
ST optical recording antimony tellurium germanium tin lead
IT Optical recording materials
(phase-changeable optical recording material contg. antimony germanium tellurium and tin and/or lead)
IT 466679-63-0 466679-64-1 466679-65-2 466679-66-3 466679-67-4
466679-68-5 466679-69-6 466679-70-9 466679-71-0 466679-72-1
466679-74-3 466679-75-4
RL: DEV (Device component use); USES (Uses)
(phase-changeable optical recording material contg. antimony germanium tellurium and tin and/or lead)

L11 ANSWER 16 OF 20 REGISTRY COPYRIGHT 2006 ACS on STN
RN 466679-74-3 REGISTRY
ED Entered STN: 28 Oct 2002
CN Antimony alloy, base, Sb 48-74,Te 13-16,Sn 0-20,Ge 0.6-13 (9CI) (CA INDEX NAME)
MF Ge . Sb . Sn . Te
CI AYS
SR CA
LC STN Files: CA, CAPLUS
DT.CA CAplus document type: Patent
RL.P Roles from patents: USES (Uses)

Component	Component Percent	Component Registry Number
Sb	48 - 74	7440-36-0
Te	13 - 36	13494-80-9
Sn	0 - 20	7440-31-5
Ge	0.6 - 13	7440-56-4

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1

AN 137:286550 CA <<LOGINID::20060822>>
TI Phase-changeable optical recording materials
IN Omachi, Noritake; Nakamura, Tadamasa; Ashida, Sumio; Yusu, Keiichiro; Suzuki, Katsumi
PA Toshiba Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM B41M005-26
ICS G11B007-24
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002293032	A2	20021009	JP 2001-102049	20010330

PRAI JP 2001-102049 20010330
AB The material has a phase-changeable optical recording layer GeyMz(SbxTe1-x)1-y-z [M = Sn, Pb, or Sn and Pb; 0.60.ltoreq. x .ltoreq.0.85; 0< y + z .ltoreq.0.20; y .gtoreq.1/19z]. The material shows good thermal stability and erasing characteristics even when the recording layer is thin and shows high sensitivity.
ST optical recording antimony tellurium germanium tin lead
IT Optical recording materials
(phase-changeable optical recording material contg. antimony germanium tellurium and tin and/or lead)
IT 466679-63-0 466679-64-1 466679-65-2 466679-66-3 466679-67-4
466679-68-5 466679-69-6 466679-70-9 466679-71-0 466679-72-1
466679-74-3 466679-75-4
RL: DEV (Device component use); USES (Uses)
(phase-changeable optical recording material contg. antimony germanium tellurium and tin and/or lead)

L11 ANSWER 17 OF 20 REGISTRY COPYRIGHT 2006 ACS on STN
RN 466679-70-9 REGISTRY
ED Entered STN: 28 Oct 2002
CN Antimony alloy, base, Sb 60-74,Pb 0-28,Te 11-14,Ge 0.5-13 (9CI) (CA INDEX NAME)
MF Ge . Pb . Sb . Te
CI AYS
SR CA
LC STN Files: CA, CAPLUS
DT.CA CAplus document type: Patent
RL.P Roles from patents: USES (Uses)

Component	Component Percent	Component Registry Number
Sb	60 - 74	7440-36-0
Pb	0 - 28	7439-92-1
Te	11 - 14	13494-80-9
Ge	0.5 - 13	7440-56-4

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1

AN 137:286550 CA <<LOGINID::20060822>>
TI Phase-changeable optical recording materials
IN Omachi, Noritake; Nakamura, Tadamasa; Ashida, Sumio; Yusu, Keiichiro; Suzuki, Katsumi
PA Toshiba Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM B41M005-26

ICS G11B007-24
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2002293032	A2	20021009	JP 2001-102049	20010330

PRAI JP 2001-102049 20010330
AB The material has a phase-changeable optical recording layer GeyMz(SbxTe1-x)1-y-z [M = Sn, Pb, or Sn and Pb; 0.60.ltoreq. x .ltoreq.0.85; 0< y + z .ltoreq.0.20; y .gtoreq.1/19z]. The material shows good thermal stability and erasing characteristics even when the recording layer is thin and shows high sensitivity.
ST optical recording antimony tellurium germanium tin lead
IT Optical recording materials
(phase-changeable optical recording material contg. antimony germanium tellurium and tin and/or lead)
IT 466679-63-0 466679-64-1 466679-65-2 466679-66-3 466679-67-4
466679-68-5 466679-69-6 466679-70-9 466679-71-0 466679-72-1
466679-74-3 466679-75-4
RL: DEV (Device component use); USES (Uses)
(phase-changeable optical recording material contg. antimony germanium tellurium and tin and/or lead)

L11 ANSWER 18 OF 20 REGISTRY COPYRIGHT 2006 ACS on STN
RN 466679-65-2 REGISTRY
ED Entered STN: 28 Oct 2002
CN Antimony alloy, base, Sb 68-74,Sn 0-19,Te 13-14,Ge 0.6-13 (9CI) (CA INDEX NAME)
MF Ge . Sb . Sn . Te
CI AYS
SR CA
LC STN Files: CA, CAPLUS
DT.CA CAplus document type: Patent
RL.P Roles from patents: USES (Uses)

Component	Component Percent	Component Registry Number
Sb	68 - 74	7440-36-0
Sn	0 - 19	7440-31-5
Te	13 - 14	13494-80-9
Ge	0.6 - 13	7440-56-4

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1

AN 137:286550 CA <<LOGINID::20060822>>
TI Phase-changeable optical recording materials
IN Omachi, Noritake; Nakamura, Tadamasa; Ashida, Sumio; Yusu, Keiichiro; Suzuki, Katsumi
PA Toshiba Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM B41M005-26
ICS G11B007-24
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2002293032	A2	20021009	JP 2001-102049	20010330

PRAI JP 2001-102049 20010330
AB The material has a phase-changeable optical recording layer GeyMz(SbxTe1-x)1-y-z [M = Sn, Pb, or Sn and Pb; 0.60.ltoreq. x .ltoreq.0.85; 0< y + z .ltoreq.0.20; y .gtoreq.1/19z]. The material shows good thermal stability and erasing characteristics even when the recording layer is thin and shows high sensitivity.

ST optical recording antimony tellurium germanium tin lead
IT Optical recording materials
(phase-changeable optical recording material contg. antimony germanium tellurium and tin and/or lead)
IT 466679-63-0 466679-64-1 466679-65-2 466679-66-3 466679-67-4
466679-68-5 466679-69-6 466679-70-9 466679-71-0 466679-72-1
466679-74-3 466679-75-4
RL: DEV (Device component use); USES (Uses)
(phase-changeable optical recording material contg. antimony germanium tellurium and tin and/or lead)

L11 ANSWER 19 OF 20 REGISTRY COPYRIGHT 2006 ACS on STN
RN 245671-98-1 REGISTRY
ED Entered STN: 01 Nov 1999
CN Tellurium alloy, base, Te 0-89,Sb 9.6-63,In 0-58,Ag 0-57,Ge 0-40 (9CI) (CA INDEX NAME)
OTHER NAMES:
CN Antimony 10-50, germanium 0-50, indium 0-50, silver 0-50, tellurium 0-87 (atomic)
MF Ag . Ge . In . Sb . Te
CI AYS
SR CA
LC STN Files: CA, CAPLUS
DT.CA CAplus document type: Patent
RL.P Roles from patents: PROC (Process); USES (Uses)

Component	Component Percent	Component Registry Number
Te	0 - 89	13494-80-9
Sb	9.6 - 63	7440-36-0
In	0 - 58	7440-74-6
Ag	0 - 57	7440-22-4
Ge	0 - 40	7440-56-4

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1

AN 131:279349 CA <<LOGINID::20060822>>
TI Manufacture of sputtering target for phase change-type optical recording disk
IN Kishi, Toshihito; Ito, Hiroyuki
PA Sumitomo Metal Mining Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C23C014-34
ICS B22F003-105; B22F005-00; C22C028-00; G11B007-26
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 56
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11279752	A2	19991012	JP 1998-80044	19980327

PRAI JP 1998-80044 19980327
AB In manuf. of the sputtering targets composed of 3-50 at.% of Ge, Ag, and/or In, 10-50 at.% of Sb, .ltoreq.5 at.% of additives if necessary, and balance Te; the alloy powder is discharge plasma sintered by heating to a prescribed temp. within 30 min and by retaining at a prescribed temp. within 30 min. Preferably, the alloy powder is formed by atomizing and quenching of alloy melt. The time required for elevation of the temp. for the sintering can be shortened by carrying the discharge plasma sintering.
ST optical recording disk sputtering target alloy; antimony alloy sputtering target optical disk; plasma sintering sputtering target optical disk; phase change optical disk sputtering target; germanium alloy sputtering target optical disk; silver alloy sputtering target optical disk; indium alloy sputtering target optical disk; tellurium alloy sputtering target optical disk

IT Optical disks
Sputtering targets
(manuf. of Sb-Te alloy sputtering target for phase change optical recording disk by discharge plasma sintering)
IT Sintering
(plasma, alloy; manuf. of Sb-Te alloy sputtering target for phase change optical recording disk by discharge plasma sintering)
IT 130119-28-7, Antimony 22, germanium 22, tellurium 56 (atomic) 245671-98-1, Antimony 10-50, germanium 0-50, indium 0-50, silver 0-50, tellurium 0-87 (atomic)
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(sputtering target; manuf. of Sb-Te alloy sputtering target for phase change optical recording disk by discharge plasma sintering)

L11 ANSWER 20 OF 20 REGISTRY COPYRIGHT 2006 ACS on STN
RN 57952-62-2 REGISTRY
ED Entered STN: 16 Nov 1984
CN Indium alloy, base, In 0-100,Sb 0-100,Te 0-100 (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Antimony alloy, nonbase, In 0-100,Sb 0-100,Te 0-100
CN Tellurium alloy, nonbase, In 0-100,Sb 0-100,Te 0-100
MF In . Sb . Te
CI AYS
LC STN Files: CA, CAPLUS
DT.CA CAplus document type: Conference; Journal
RL.NP Roles from non-patents: PROC (Process); PRP (Properties)

Component	Component Percent	Component Registry Number
In	0 - 100	7440-74-6
Sb	0 - 100	7440-36-0
Te	0 - 100	13494-80-9

3 REFERENCES IN FILE CA (1907 TO DATE)
3 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1

AN 94:110182 CA <<LOGINID::20060822>>
TI Heats of mixing in ternary systems. I. Enthalpies of mixing of indium-antimony-tellurium
AU Gather, B.; Legendre, B.; Blachnik, R.
CS Gesamthochsch. Siegen, Siegen, 5900, Fed. Rep. Ger.
SO Journal of the Less-Common Metals (1981), 77(1), 71-80
CODEN: JCOMAH; ISSN: 0022-5088
DT Journal
LA English
CC 69-1 (Thermodynamics, Thermochemistry, and Thermal Properties)
Section cross-reference(s): 68
AB The heats of mixing in the ternary system In-Sb-Te were detd. at 918 K by using a heat-flow calorimeter. The data are presented in a graph of isoenthalpic curves and are compared with the calcd. values.
ST heat mixing indium antimony tellurium
IT Heat of alloying
Heat of mixing
(in antimony-indium-tellurium system)
IT 57952-62-2
RL: PRP (Properties)
(heats of mixing in)
IT 13494-80-9, properties
RL: PRP (Properties)
(heats of mixing in systems of antimony, indium and)
IT 7440-74-6, properties
RL: PRP (Properties)
(heats of mixing in systems of antimony, tellurium and)
IT 7440-36-0, properties
RL: PRP (Properties)
(heats of mixing in systems of indium, tellurium and)
IT 12030-32-9
RL: PRP (Properties)

(in ternary system, heats of mixing in relation to)

REFERENCE 2

AN 94:37318 CA <<LOGINID::20060822>>
TI Enthalpy mixing and the phase diagram of the indium-antimony-tellurium ternary system
AU Gather, B.; Blachnik, R.; Legendre, B.
CS Anorg. Chem., Univ.-GH-Siegen, Siegen, Fed. Rep. Ger.
SO Therm. Anal., [Proc. Int. Conf. Therm. Anal.], 6th (1980), Volume 2, 75-80. Editor(s): Hemminger, W. Publisher: Birkhaeuser, Basel, Switz. CODEN: 44RFAC
DT Conference
LA English
CC 69-1 (Thermodynamics, Thermochemistry, and Thermal Properties)
Section cross-reference(s): 56, 68
AB The heats of mixing were detd. of the system In-Sb-Te at 918 K by a heat flow calorimeter under Ar atm. The phase diagram data were evaluated in an earlier work (1979).
ST heat alloying indium antimony tellurium
IT Heat of alloying
(of antimony-indium-tellurium)
IT 57952-62-2
RL: PRP (Properties)
(heats of alloying of)
IT 13494-80-9, properties
RL: PRP (Properties)
(systems, antimony-indium-)
IT 7440-74-6, properties
RL: PRP (Properties)
(systems, antimony-tellurium-)
IT 7440-36-0, properties
RL: PRP (Properties)
(systems, indium-tellurium-)

REFERENCE 3

AN 84:36023 CA <<LOGINID::20060822>>
TI Measurement of the enthalpy of mixing in indium-tellurium-antimony, indium-lead-bismuth, systems by quantitative thermal analysis
AU Vecher, A. A.; Zal'tsman, L. D.; Mechkovskii, L. A.; Skoropanov, A. S.
CS Beloruss. Gos. Univ. im. Lenina, Minsk, USSR
SO Zhurnal Fizicheskoi Khimii (1975), 49(9), 2205-7
CODEN: ZFKHA9; ISSN: 0044-4537
DT Journal
LA Russian
CC 69-2 (Thermodynamics, Thermochemistry, and Thermal Properties)
Section cross-reference(s): 56
AB Mixing enthalpies of the ternary systems In-Te-Sb, In-Pb-Bi, In-Sb-Sn, and of the quasibinary system InSb-Sb2Te3 and the heats of fusion and of solid-soln. formation in the systems In-Sb and In-Sn were detd. by quant. DTA.
ST tellurium indium antimony enthalpy alloying; lead bismuth indium enthalpy alloying; enthalpy alloying ternary indium
IT Heat of mixing
(of antimony telluride with indium antimonide)
IT Heat of fusion and Heat of freezing
(of antimony-indium and indium-tin alloys)
IT Heat of alloying
(of antimony-indium-tellurium, bismuth-indium-lead and antimony-indium-tin alloys)
IT 57952-62-2 57952-63-3 57952-64-4
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(heat of alloying of)
IT 37232-94-3 37345-85-0
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(heat of fusion of)
IT 1312-41-0, properties
RL: PRP (Properties)
(heat of mixing of, with antimony telluride)

IT 1327-50-0
RL: PRP (Properties)
(heat of mixing of, with indium antimonide)

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